AMERICAN
# Cinematographer
INTERNATIONAL JOURNAL OF MOTION PICTURE PHOTOGRAPHY AND PRODUCTION TECHNIQUES

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"The Defenders"

"Hud"

"David And Lisa"

## Photographing 'Cleopatra'

JULY
1963
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# Cinematographer

INTERNATIONAL JOURNAL OF MOTION PICTURE PHOTOGRAPHY AND PRODUCTION TECHNIQUES

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ON THE COVER

*PHOTOGRAPHING Cleopatra's majestic entrance into Rome on slave drawn sphinx, one of the big spectacle scenes in Twentieth Century Fox's "Cleopatra," photographed in color with Todd-AO cameras by Leon Shamroy, ASC (standing near camera in left foreground and wearing straw hat) Story about the photography of Cleopatra begins on page 396 of this issue*

ARTHUR E. GAVIN, Editor

MARION HUTCHINS, Editorial Assistant

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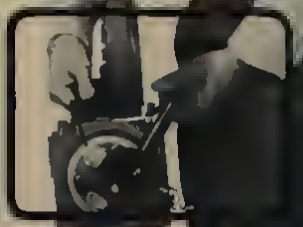

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# INDUSTRY NEWS

*News briefs of industry activities, products and progress*

### Technicolor Launches Techniscope—Aimed At Cutting Color Costs 50%

Technicolor Corporation last month introduced a new photographic and printing system for motion pictures called Techniscope, which the company hopes will shave costs on production of color features.

Savings will be effected, says Technicolor, by the fact 50% less color negative will be used in the photography, because the negative frame in the camera is two perforations in height as compared with usual four-perforation frame of conventional 35mm photography. Costs for negative processing will also be halved.

Following processing of the negative, the two-perforation Techniscope frame is optically printed vertically to an aspect ratio of 1-to-2, providing a 35mm anamorphic Technicolor positive print having the normal 4-perforation frame height.

Techniscope photography is accomplished with conventional 35mm cameras after simple modifications have been made to the film transport, aperture and finder. As standard squeeze prints are provided, no special projection equipment is required for exhibition.

Other advantages claimed are: great depth of field is obtained through use of short focal length spherical camera lenses; new system doubles the length of time for camera shooting before changing magazine is required; short-end losses are reduced as only one-half the amount of negative formerly used is required to photograph a scene; the shortened film transport in camera greatly reduces camera noise; and a wide range of prints may be manufactured from the Techniscope negative.

●

### Industry News Forums Planned

The American Society of Cinematographers has set in motion plans to conduct a series of ASC Industry News Forums for the purpose of demonstrating before its members latest processes, techniques and equipment relating to the photography and production of films for theatres and TV.

Hal Mohr, ASC President, has invited a number of equipment manufacturers and others with products or techniques of interest to cinematographers to consult with Walter Beyer, Chairman of the ASC's Research and Educational Committee, to arrange participation in the forums.

●

CINEMATOGRAPHER Charles Cignatti (right) and director Fred Jackson shooting scenes for prize-winning film

### Antarctica Movie Wins "Cindy" For Martin Company

*Power For Continent Seven*, a 28-minute documentary film depicting the construction by Martin Company of the nuclear power plant for the McMurdo Sound scientific base in Antarctica, won a "Cindy" award for placing first in the Industrial Film Producers Association's 1963 motion picture festival.

Martin Company cinematographer Charles J. Cignatta spent more than three months in the antarctic last year shooting the film and also making a second documentary relating to testing at the power station.

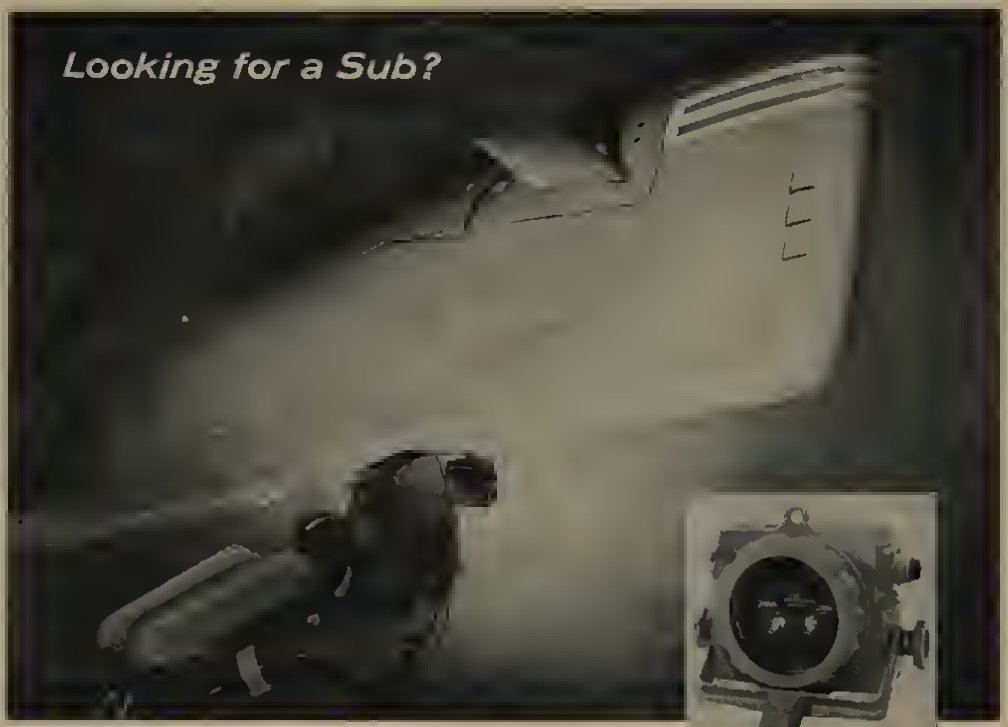
Also participating in the production of the prize-winning film were George Merriken, editor; Marvin Fryer, animator; Jack Clink and Pat Patton, sound; Fred Jackson and Jon Fogel, directors; Oveste Granducci, script writer; and Byron Motion Pictures, Inc., lab work.

●

### Birns & Sawyer Purchase Studio's Equipment

Birns & Sawyer Cine Equipment Company, Hollywood, has acquired the complete equipment of the cam-

Continued on Page 380



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A new concept in underwater lighting is the "pocket size" SeAQUArtz Light, researched and engineered by Birns & Sawyer. The SeAQUArtz is only 7½ inches square but delivers a powerful 5,000 watts of exposure.

A Birns & Sawyer designed cast aluminum housing with convection cooling fins, accommodates the intense, 65,000 candlepower, quartz iodide Sylvania Professional Sun Gun lamp and reflector. The exclusive reflector design has over 750 light intensifying surfaces individually engineered to work with and reinforce one another to provide a brilliant, evenly distributed, easily directed light.

The compactness and light weight of the SeAQUArtz makes possible new freedom, flexibility and maneuverability in underwater photography and illumination. It comes with adjustable locking yoke which attaches to camera or underwater apparatus for angling the beam. Unit can also be attached with C clamps. SeAQUArtz lights are available for 115 volt AC, 220 volt AC or 30 volt DC battery pack. Waterproof Joy connector cable comes in 50 and 100 ft. lengths, can be joined to reach greater depths.

The SeAQUArtz with its special ½-inch thick Pyrex lens, can withstand pressure to 300 feet. Other SeAQUArtz lights are in development with 1,000 ft. depth capabilities.

Typical applications are for marine life study, geology, A.S.W. research, dredging and salvage operations, boat hull examinations, underwater missile research, piling and pier construction, harbor building and repair.

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**Shown above: Catalog 5500 — SeAQUArtz light for 115 volt A.C. . . . $275.00**

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## INDUSTRY NEWS

Continued from Page 378

era, grip, and film editing departments of the Ziv-United Artists studio Some of the equipment will he made available tbrough the company's rental department and the balance sold outrigbt to independent film producers in the U S. and oversees.

Previously, Birns & Sawyer acquired surplus motion picture production equipment from MGM. Columbia, Universal International, and Republic studios.

•

ROBERT CIRACE (left) received award from Robert Berman for New England Press Photographers Assn At right is Bob Howard Praxy of Association

### Robert Cirace, WBZ-TV News Cameraman, Honored

New England Press Photographer's Association last month voted Robert Cirace, news photographer for WBZ TV, Boston, "Newsreel Photographer of the Year" and presented him with an award for "Best fn The Show" for his film "Christmas In A Toy Store," entered in the Feature TV Class of the Association's annual awards event The winning film portrayed youngsters enjoying the wonders of a department store toy section during the height of the Christmas shopping season.

Presentation of the award was a feature of the Annual Press Pbotographer's Ball held at Boston's Sheraton Plaza Hotel last month.

•

### Aerojet Films Win Two Cindy Awards

Two "Cindy" trophies, comparable to Hollywood's famous "Oscars," were awarded last month to Aerojet General Corporation's Sacramento (Calif.) film group The winning films were "Power of the Individual," a documentary concerning man's role in the production of reliable propulsion systems, produced by Frederick Giermann for the company's Liquid Rocket Plant; and "Two Dimensional Grain Design for Solid Rocket Motors," produced by Mitch Rose.

Cameramen Fred Stocks, George Madson, Glenn Beier, and Norm Hanson did the pbotography for "Power of the Individual." Art direction and animation for the second film was done by a sub-contractor.

•

### Eastman Kodak and Du Pont Increase Raw Film Prices

Prices of professional black-and-white motion picture positive film were increased last month by both Eastman Kodak Company and Du Pont Photo Products. Eastman films affected by the change are B&W positive 35mm and 16mm films and sound recording and B&W motion picture positive types of materials. Costs are up from $16 to about $17 per thousand feet for 35mm, and from $8 75 to about $9 25 per thousand feet for 16mm.

Du Pont's price hikes, announced simultaneously with Eastman's, affect Type 802 sound recording, Type 833 fine grain VA sound recording, Type 803 high-speed release positive, Type 824 fine grain low contrast positive, Type 828 fine grain master positive, Type 834 TV recording, Type 225 "Cronar" fine grain release positive, Type 825 fine grain release positive and leader stock films Du Pont's price hikes range from 2 3 to 7 9 per cent

A week later (June 25th) Eastman announced that the price of Ektachrome ER motion picture film had been reduced about 17 per cent—the price cut applying to 16mm 35mm and 70mm widths

•

### Du Pont Debuts "Superior" 3 Negative in 16mm and 35mm

Du Pont, on June 21st, announced its "Superior" 3 negative film, a new panchromatic motion picture film for indoor use in both 16mm and 35mm widths "Superior" 3 is a high-speed, fine-grain negative with an ASA speed rating of 250 daylight and 200 tungsten ft is designed for general motion picture and TV studio production work to permit photography of fine-grain images under low set illumination levels, or to shoot with smaller lens openings in order to increase depth of field.

New film is available in 16mm daylight loading rolls of 100, 200, and 400 feet, and bulk loads of 400 and 1200 feet. In 35mm it is available in 100 foot daylight loading rolls and in bulk loads of 200, 400, and 1000 feet.

•

### Veteran Von der Veer Dies

Willard Van der Veer who was official cameraman with the Adm. Richard E. Byrd expeditions, died of a heart attack in his home last month. He had served half a century as a movie and newsreel cameraman.

Continued on Page 382

# For Highest Creative Achievement...

Camera Equipment Co , Inc is proud to have had a part in the EMMY award-winning production, "THE DEFENDERS " The equipment used in the filming of this worthy series was rented from CECO

As the leading supplier of film-making equipment, it is with great pleasure that we join in acclaiming and congratulating all those, who, by their notable creative contributions to the high standards of the industry, won 1962-1963 EMMY Awards

---

Dur special congratulations and thanks to six of our friends, who rent CECD equipment, for their estimable accomplishments

MR JDHN S PRIESTLY, Local 644, for BEST ACHIEVEMENT IN TV CINEMATOGRAPHY, "THE NAKED CITY." (Mr Priestly is currently shooting the new Talent Associates series "EAST SIDE --WEST SIDE" with CECD equipment )

MR EDMUND "Bert" GERARD, Local 644, Regional Award, CINEMATDGRAPHY on "SUPERFLUDUS PEOPLE"

MR HERBERT BRODKIN & MR CLAY ADAMS, Plautus Productions, for DUTSTANDING PROGRAM ACHIEVEMENT IN THE FIELD DF DRAMA, "THE DEFENDERS"

MR SID KATZ, Plautus Productions, for BEST ACHIEVEMENT IN TV FILM EDITING FOR TELEVISIDN, "THE DEFENDERS"

MR STUART RDSENBERG, Plautus Productions, for the BEST DIRECTIONAL ACHIEVEMENT IN DRAMA, "THE DEFENDERS" ("THE MADMAN")

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President, Camera Equipment Co., Inc

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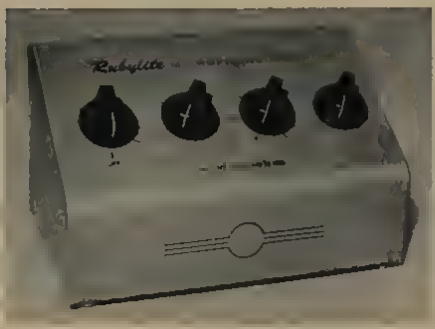

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## INDUSTRY NEWS

Continued from Page 360

### Meter Calibration Filters

Filters have been devised by the U.S. Bureau of Standards to effectively calibrate photoelectric exposure meters. Two sets of filters, one of blue glass for calibrating incident light meters and the other, a diffusing sandwich composed of both a plexiglas diffuser and a blue glass, for calibrating reflected light meters. The filters permit calibration of exposure meters that are intended for both indoor and outdoor use.

Until recently, it was established that for calibration of such meters the effective light source color temperature was about 2850°K. However, descrepancies were noted when the meters were used in daylight. Recent ASA studies indicate a CT of about 4700°K would eliminate the descrepancies and filters have been designed to achieve this.

•

### Lightning, Action, Camera

The scene being filmed on the Walt Disney set called for a long shot, with six horsemen in the foreground and lightning flashing overhead. The sodium traveling matte photographic process being used required a foreground light level of 1200 footcandles, which meant an additional 4000 footcandles would be needed to override the set lighting to simulate the lightning.

Ordinarily, a carbon arc "scissors" would have solved the problem, but flare control is difficult, and because no white light can strike the sodium backing, this technique was impossible. Besides, the operation of the "scissors" might have frightened the horses.

Edward Colman, ASC, suddenly remembered reading just the day before about the new Mole-Richardson "Titan" arc lamp, and put in a call to Mole-Richardson's Howerd Bell. Three Titans were brought to the studio, placed on one side of the set, and shutters used to provide the "lightning flashes." Colman easily got the extra 4000 footcandles he needed, and the horses couldn't have cared less.

The Titan arc lamp, designed for high-amperage operation at 350 amps with a 16mm carbon produced by National Carbon Company, is said to provide a greater set lighting intensity than previous lamps. It should find wide use as a booster for shooting exterior scenes in color. ■

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# BEHIND THE CAMERAS

## WHAT THE INDUSTRY'S CINEMATOGRAPHERS WERE SHOOTING LAST MONTH

BY MARION HUGGINS

NOTE. Asterisks following titles indicate television film productions.

### AMERICAN-INTERNATIONAL

MANUEL BERENGUER, ASC, "A Cold Wind from Hell" (SWP Prod.; Pancoor, shooting in Spain) with Barry Sullivan and Martha Hyer. Sidney W Pink, director.

KAY NORTON, "Beach Party" (Nicholson Arkoff Prod., Pathe Color) with Bob Cummings and Dorothy Malone William Asher, director

### ALLIED ARTISTS

JOSEPH BIROC, ASC, "Gunfight at Comanche Creek" (C'Scope & Color) with Audie Murphy and Colleen Miller. Frank McDonald, director

### BILTMORE STUDIOS, N.Y.

ANDREW LASZLO, "Naked City"*

### BIOGRAPH STUDIOS—New York

JOHN S PRIESTLY, "East Side, West Side"*.

### CASCADE STUDIOS

ELWOOD BREDELL, ASC, Commercials*.

TYLER BYARS, Commercials*

HAL MOHR, ASC, Commercials*

WINTON HOCH, ASC, Commercials*.

### CBS—N.Y.

CHARLES MACK, LEO ROSSI, ROBERT CLEMENTS, "CBS Reports"*.

FRED HOFFMAN, MIKE ZINGALE, "Candid Camera"*

### COLUMBIA STUDIOS

GIL TAYLOR, "Doctor Strangelove. Or How I Learned to Stop Worrying and Love the Bomb" (Trooper Films, shooting in Europe) with Peter Sellers and George C. Scott Stanley Kubrick, producer director.

CHRISTOPHER CHALLIS, "The Long Ships" (Warwick Films Prods., Technirama Technicolor, shooting in Yugoslavia) with Richard Widmark and Sidney Poitar Jack Cardiff, director

GERALD HIRSCHFIELD, ASC, "Fail Safe" (Youngstein-Lumet Prod., Shooting in N.Y.) with Henry Fonda and Dan O'Herlihy Sidney Lumet, producer director

GERT ANDERSEN, ASC, "Donna Reed Show"*.

EUGEN SHUFTAN, "Lilith" (Centaur Ents. Inc.) with Warren Beatty and Jean Seberg Robert Rossen, producer director.

CHARLES LAWTON, ASC, Commercials*.

ROBERT WYCOFF, Commercials*.

ROBERT BRONNER, ASC, Commercials*

BURNETT GUFFEY, ASC, Commercials*.

FRED GATELY, ASC, "Hazel"*

WILKIE COOPER, "Siege of the Saxons" (Chas H. Schneer Prods., T'color, shooting in London) with Janette Scott and Ronald Lewis Nathan Juran, director

IRVING LIPPMAN, "The Three Stooges Go Around the World in a Daze" (Normandy Prods.) with the Three Stooges Norman Maurer, producer director.

### DESILU—Cahuenga

HENRY CRONJAGER, "The Joey Bishop Show"*.

### DESILU—Gower

TED VOIGHTLANDER, ASC, "Ben Casey"*.

MAURY GERTSMAN, ASC, "The Lucy Show"*.

ROBERT PLANCK, ASC, "My Three Sons"*.

ROBERT HAUSER, ASC, "The Breaking Point"*

### FILMWAY STUDIOS—New York

MORRIS HARTZBAND, ASC, "The Defenders"*.

### GOLDWYN STUDIOS

LLOYD AHERN, ASC, "The Fugitive"*

### INDEPENDENT

LOYAL GRIGGS, ASC, "The Greatest Story Ever Told" (Geo. Stevens Prod., UA release; P'Vision & Cinerama in Technicolor with Max Von Sydow and Charlton Heston. George Stevens, producer-director.

ROBERT KRASKER, "The Fall of the Roman Empire" (Samuel Bronston Prod; Ultra P'Vision & Technicolor; shooting in Spain) with Sophia Loren and Stephen Boyd. Anthony Mann, director.

TED MOORE, "From Russia, With Love" (Eon Prods., shooting in London) with Sean Connary and Pedro Armendariz. Terence Young, director.

LINWOOD DUNN, ASC, "The Long Corridor" (Leon Fromkess Prod.) Special Effects.

LINWOOD DUNN, ASC, JAMES GORDON, ASC, "It's A Mad, Mad, Mad, Mad, World" (Stanley Kramer U.A.) Special Effects.

RICHARD WINIK, "Sport Shorts."

WILLIAM STORZ, ASC, "On the Art of Ballet" (Film Productions, shooting in N.J.).

ENZO SERAFIN, "Wounds of Hunger" (Color, Widescreen; shooting in Spain) with Rossano Brazzi and Mark Damon. Saul Swimmer, director.

IAN PHILLIPS, "The Creeping Terror" (Metropolitan Int'l Pictures) with Vic Savage and Shannon O'Neil A J Nelson, producer-director

HAROLD ROSSON, ASC, "Music at Midnight" (MRA Films, shooting on Mackinac Island, Mich.) with Martin Landau and Nora Swinbourne. Lewis Allen, producer-director.

### M-G-M STUDIOS

DALE DEVERMAN, ASC, "The Eleventh Hour"*.

GEORGE CLEMENS, ASC, ROBERT PITTACK, ASC, "Twilight Zone"*.

WILLIAM SPENCER, ASC, "The Richard Boone Show"*.

LEO TOVER, ASC, "Sunday in New York" (Widescreen-Metrocolor; shooting in N.Y.) with Cliff Robertson and Jane Fonda Peter Tewksbury, director.

Continued on Page 425

## BELL & HOWELL 2709

Professional 35mm camera with an exceptional range of capabilities. Employs "Unit I" fixed-dual registration pin film movement. Assures precise film registration regardless of number of times film is run thru gate, forward or reverse. Has 4-lens turret, prismatic focusing, and 170° variable shutter. Accessories available for camera are sunshade matte box, erect image viewfinder lenses, 1000 ft magazines, 12 volt DC and 110 volt AC variable speed motors, 220 volt synchronous motor, high speed motor, and high speed 200 frame-per second movement. List, new $4303.00

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A most unusual value in a camera with unparalleled versatility and utility. This Model II 35mm Arri is used, but in truly excellent condition. The price for this complete outfit includes matte box, 3 lenses, three 200 ft magazines and one 400 ft magazine, 3" sq. filters, 16 volt variable speed motor, 8/16 volt battery and charger, and carrying case. List new $3214.00

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| Kodak Sensitometer Process Control | 495. |
| DeVry 16mm Arc Proj | 695 |
| Neumade Film Cleaner CL 16-16mm | 169 |
| 8-16mm Hot Splicer Micro Excellent | 99 |
| Magazine 1/Mitchell New 16mm x 400' | 112 |
| Magazine 1/B&N New 16mm x 400' | 129 |
| Magazine 1/Mitchell 16mm x 1200' | 165 |
| 40" f3 Lens. B&L For Arri 16 or 35 | 375. |
| 12-120mm Angenieux. Arri or "C" Mt | 749 |
| Arri 16 Complete Outfit | 1995 |
| Arri 35 Complete outfit | 1150 |
| Mitchell 35 Std. Complete Outfit | 4500 |
| B&H 2708 Unit I Shuttle 35mm | 1495 |
| Acme 16 Animation Camera | 1400 |
| Acme Animation Meter | 419 |
| 100' Cine Special Chamber | 165 |
| 17-70 Pan Ciner Zoom For Arri | 185 |
| 16mm Projector. Ampro Silent | 65 |
| Pro Jr Tripod New Legs, Used Head | 119 |
| Mitchell Matte Box New | 195 |
| Scene Slate W/Clapboard NCE New | 29 |
| Auricon Finder. Model EIF 20 | 169 |
| Meyer Hancock Finder. W/Bracket | 79 |
| Mitchell Finder. Insert Matte | 69 |
| Camart TV Mike Boom. Castered Base | 195 |
| Auricon Pro-200 Complete Outfit | 795. |
| Baby Blimp. F/35 or 16 Mitchell, etc | 899. |
| 16mm Synchronizer, 2-gang Micro | 99. |
| Goettler F/B&H Printers. Like New | 325. |
| 16mm Houston. Model K-1A Processor | 1995 |
| Moviola. 35mm Mod D w/take-ups | 169 |
| Stineman Processor. 16mm x 200' New | 97. |
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| Morse G-3 Processor. 100'-8-16-35mm | 27 |
| 70mm Not Splicer. New | 250. |
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| Griswold Splicer Model R-2 35mm | 19 |
| Neumade Film Waxer. 35mm New | 19. |
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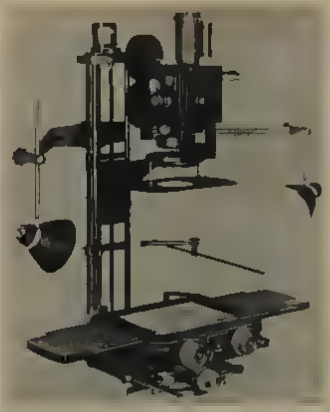
# WHAT'S NEW

## IN EQUIPMENT, ACCESSORIES, SERVICES



### New Tel-Animostands

Two new models of the Tel-Animastand are announced by S.O.S. Photo-Cine-Optics, Inc., 602 West 52nd St., New York 19, N.Y. The Model 11A is a portable table unit of rugged construction.

An accurate full view scale mounted adjacent to the vertical guide is calibrated in quarter fields from 3 to 12. The standard work table is 18" x 48" including removable end extension and moves 10" East/West or 4½" North/South. Two 70" flush fitting peg bars with engraved scale move 24" in either direction from the optical center. Peg bars are controlled by large 4" handwheels calibrated in 100ths and 64ths. An electrically operated glass platen for standard 12 field or optional 16 field is self adjusting. The unit is complete with two fully adjustable 300 watt 2000 hour flood lamps and single voltage control for front lighting. Argon back lighting supplies constant cold light for pencil tests and color transparencies.

The Model 1A is similar, and makes an ideal animation stand for film strip work, filmographs, titles, television commercials and animation that does not require all the features in the Tel-Animastand 11A.

Price of the Model 11A is $4,500; for the Model 1A, $3,250.

### 8mm and 35mm Synchronizers

Precision Laboratories, 928 East 51st St., Brooklyn, N.Y., announce addition of two new film synchronizers to company's line of film editing equipment. The Model S616 is a single gang "Unitized" 8mm synchronizer. Complete with footage counter, it is priced at $120.00. Also available for this unit is a 16mm sprocket assembly and gearbox having a differential ratio of 2-to-1.

Model S635-2AO is for 35mm film and includes an optical sound reader head and footage counter. Price of unit is $224.50. Available also for this unit are amplifier and speakers.

### Hi-spaed 16mm Lens

A new 25mm f/0.95 ultra high speed 16mm lens, the "Night Hawk", is announced by the importer, Century Precision Optics Div., 10659 Burbank Blvd., North Hollywood, Calif. The lens' precision, 9 element optical system boasts high resolving power and full spectrum color correction. It is more than twice as fast as an f/1.4 lens, made possible by new type optical glass. Well exposed color films can be made in normal room light. It is available in 16mm "C" mount or Bolex RX mount. Price is $149.50, including filter holder, sunshade and case. Adapters for 8mm "D" mount are $3.95 extra.

### CECO Offers Motors

Camera Equipment Co., Inc., 315 West 43rd St., New York 36, N.Y., announces a new stop-motion motor for

Continued on Page 388

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ZOOM
NAVITAR

Elgeet offers Vidicon television cameras and 16mm cameras the first Zoom Navitar, a manually controlled 4:1 zoom with a 20mm to 80mm range—f 1 8! This new lens achievement is optically compensated to hold focus through the entire zoom action. Fourteen elements—covers Vidicon format—resolves 600 lines—linear zoom action by ring—list price: $400. For information, write for Catalog 2080-CZ18.

Elgeet OPTICAL COMPANY, INC.
303 Child St., Rochester 11, N. Y.

## WHAT'S NEW

Continued from Page 386

the Bell & Howell Eyemo camera with a control box affording continuous operation or stop-motion programming. Continuous speed is 8 fps, affording exposures of ⅛ second with a 170° shutter. List price is $400.00.

Also announced is a new motorized zoom control for Angenieux 12-120mm and 15-150mm zoom lenses. Rheostat control affords a 3-12 and 8-30 range of zoom speeds. Price is $350.

### Microphone Mixer

The Rubylite microphone mixer permits use of four low-impedance microphones, with separate control of each, into the single low-z input of any professional tape recorder, sound motion picture camera, amplifier, etc. Weighing but 2 pounds and only 4 x 7 x 4 inches in size, frequence response of the mixer in 20-20,000 cps; signal-to-noise, better than 130 lb; input and output impedance, 50 to 250 ohms: Pre-amp transistorized circuit provides 6 db boost, increasing power 4 times. Power is supplied by self-contained 9-volt battery. Net price is $159.50. Manufacturer is Photomart, 228 So. Franklin St., Tampa 2, Fla.

### New Spectra Meter

Designed especially for television lighting directors and for motion picture head electricians (gaffers), the Spectra "Lighting Director" footcandle meter measures a basic range of 0 to 300 footcandles, which can be extended to 3,000 footcandles with an 10-X multiplier slide and on to 30,000 footcandles with an 100 X multiplier slide, affording precise control of set lighting balance. The meter's large selenium cell is mirco-ammetered to a logarithmic response scale which is individually calibrated on an N.B.S. approved photo bench. Price of the meter, including luggage-leather carrying case, X10 and X100 multipher slides, and a "zero" slide for meter checking, is $74.50. Manufacturer is Photo Research Corp., 837 No. Cahuenga Blvd., Hollywood 38, Calif.

### Filter Factor Computer

Facto-Rator renders instant answers to problems of filter factors and exposure equalization. Two by two inches square, it is made of durable aluminum with printed figures, etc., for easy computation, using rotary center disc which shows at a glance the correct f/ stop to use when using or removing a filter from camera lens. List price is $2.50. Les Miller Enterprises, 3023 Hillcrest Dr., San Antonio 1, Texas.

### Motor Adapter Door

The CSC adapter door permits the use of all Mitchell and Mitchell type variable speed AC/DC motors with the new Mitchell Mark II camera. Precision engineered and manufactured, it can be installed in seconds without tools. Four knurled thumb screws mount the door to the camera. The standard Mitchell motors can then be mounted to the adapter door in the conventional manner. Made of aluminum with a black crinkle finish that matches finish of the Mitchell Reflex camera. Wiring is complete and compatible with standard camera wiring. Only 7¾" x 5½" x 2¼" in size, door weighs less than 2 pounds. Manufacturer is Camera Service Center, Inc., 33 West 52nd St., New York 19, N.Y.

### New Bewi Exposure Mater

The new Bewi Super exposure meter permits readings of shutter values at extremely low light levels by means of its cadmium sulphide cell. Match-pointer system and arrangement of scales in a single range of sensitivity make operation extremely simple. There are no switches or buttons or low range meter settings. Meter is suitable for both reflected and incident light readings and affords an ASA range from 12 to 3200 at exposures from 1/1000 of a second to 60 seconds. Distributor is Burleigh Brooks, Inc., 420 Grand Ave., Englewood, N. J. ■

## ARRIFLEX at work — ONE OF A SERIES*

MIS PHOTOGRAPHER ARAM PETER MARGOSIAN USING SYNCHRONIZED FLASH ILLUMINATION AND MODIFIED KILFITT LENS

# ARRIFLEX® achieves macrocinematographic objective for Moody Institute of Science

A 10-year project of photo-documenting bees maintaining their cities, communicating, telling time and even measuring distances geometrically, was culminated when Dr. Irwin A. Moon, Director of the Moody Institute of Science, Los Angeles, California completed filming "City of the Bees." In making the notable documentary, which has attracted widespread acclaim both here and abroad, Moody Institute of Science photographers relied heavily on the Arriflex 16's mirror reflex features, highly-maneuverable compactness and famed versatility. Exploring unusual procedures in macrocinematography, they synchronized stroboscopic light pulses with the reflex mirror-shutter. This permitted maximum film exposure without subjecting the sensitive, delicate bees to the disturbing, destructive heat of standard lighting. The background story of this fascinating production is reported in the SMPTE JOURNAL, September, 1962 and FILM WORLD of February, 1963.

Utilizing a variety of lenses and lens combinations, the challenges of shooting from moving vehicles within closely-restricted tree and hive areas...or combining macroscopic subjects with normal backgrounds—were all easily met. In successfully filming "City of the Bees," Arriflex once again proved itself indispensable as a photographic tool of almost limitless capabilities. On location, or in studio, it will do the same for you.

**From the microscope to the missile range** ... from spot locations to sound stages ... Arriflex professional motion picture cameras are the dominant choice of filmmakers in science, industry, and entertainment. They're lightweight, rugged, tremendously versatile — uniquely suited to a range of applications virtually without limits. Here are some of the features that give Arriflex cameras their remarkable capabilities:

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APC CINEMATOGRAPHER Charles B Hemingway (right) prepares to photograph an insert on the special effects stand which the Center's technicians designed and constructed

# WHEN THE ARMY HAS SHOOTING TO DO...

PART 2

By GEORGE J. MITCHELL
*Lieut Colonel, U.S Army, Retired*

IN MY INTRODUCTORY article last month, I described the physical layout of the Army Pictorial Center in Long Island, New York, its facilities and key personnel, and revealed something of the scope of activities of the APC, said to be the largest non-theatrical film production organization in the world. The center is comparable to a major Hollywood studio in facilities, equipment and technical personnel. Understandably the major portion of the productions undertaken by APC are Army training films.

After a film project is officially approved for production, the script is forwarded to the Camera Branch of APC where it is read and studied by Joe Lipkowitz, veteran cinematographer and Chief of the Camera Branch. He determines the most economical way to get the job done and then assigns to it the best qualified cameraman. The cameraman studies the script and, together with Lipkowitz, ascertains the amount and type of

Continued

STILL A FAVORITE with APC cameraman for hand held shooting is the reliable and near indestructible Bell & Howell Eyemo "Q" camera, shown here in hands of 2/Lt. Peter J. Torelli of the Army Pictorial Center in Long Island

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More powerful than any other spotlamp ever used in the industry, the "Titan Molarc" is particularly useful as an outdoor sunbooster . . . as a source for lighting extra large areas for both motion picture and TV productions.

Top carrying power, sharper definition, shadow details, highlights, and true-to-life color reproduction are yours when you light your sets with "Titan Molarc" spotlamps trimmed with NATIONAL high-intensity arc carbons . . . white or yellow flame

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UNION CARBIDE

AS MAY BE SEEN HERE, the APC has virtually all the sound stage facilities of a Hollywood major studio. Chris Mauriello and assistant Bob Murphy prepare to shoot scene for an APC training film.

SUNLIGHT REFLECTORS have been set up in a rugged distant location to throw light into shaded area for sequence for a jungle warfare training film, being photographed by Frank Argandiza at camera.

*—U.S. Army photos courtesy APC*

equipment that will be needed (this includes coordination with the Stage Branch for electrical and grip requirements). Both then confer with the Project Officer and the director, offering suggestions as to the most efficient and economical way the picture can be photographed. Frequently, tests must be made prior to production. As actual photography gets under way, Lipkowitz reviews the "dailies" in the projection room each morning to check the quality of work and make certain high photographic standards are being obtained.

**Fine Detail Essential**

Fine detail is most essential in training-film photography. Peculiar angles that would cause distortion are avoided. Backgrounds are kept clean and plain—non-essentials distract from the subject. APC cameramen strive to keep the photography clear, needle sharp and with well defined lighting. This does not mean that dramatic low-key lighting is absent from training films. Some subjects, like films dealing with certain phases of intelligence operations for example lend themselves to dramatic photography. But even with such subjects, abstract and "arty" angles are avoided. So is excessively dim lighting. APC cameramen must always bear in mind that their pictures may be projected in the field under less than ideal conditions. The photography must be sufficiently clear to render an acceptable picture if projected in a poorly darkened classroom, dayroom or tent.

A constant problem that besets the Center's cameramen working overseas in various parts of the world is the wide variety of electric voltages and frequencies encountered. To assist camera crews in solving this problem, Lipkowitz has compiled a list of principle foreign voltages and frequencies. But often Army cameramen must operate in the field with troops in areas where no electricity except that provided by generators is available. A heavy generator can present a serious transportation problem and sometimes must be left behind. This, of course, means that the cameraman will not be able to get certain highly desirable scenes. Such problems have been solved with the acquisition of a Birns & Sawyer CAR-on generator. This generator, which can be mounted alongside the regular generator of an auto, jeep or weapons carrier, is capable of providing 110-volt, 30-amps current, sufficient to run a Mitchell motor and several portable lighting units.

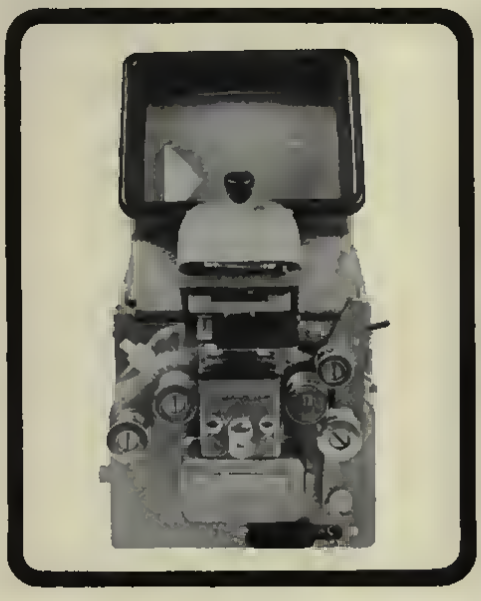
**B&H Eyemo Favored**

Quite a bit of thought has been given by Lipkowitz and other APC officials to the need for an efficient, lightweight, spring-driven and ruggedly constructed 35mm motion picture camera that can be used by Signal Corps cameramen operating under hazardous field conditions or in actual combat. Lipkowitz calls them "cold war cameramen" since they must operate in places like South Vietnam, Berlin and other points of tension throughout the world.

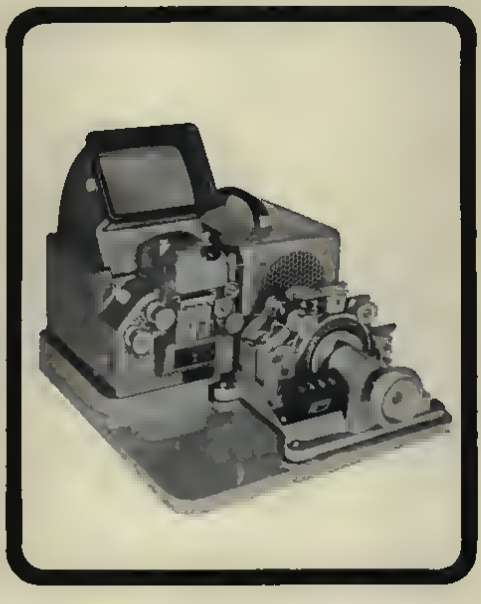
During World War II, experiments were conducted on a number of motor-driven, battery-powered hand cameras. Although these were capable of excellent performance, they proved too heavy for the cameraman shooting under ground combat conditions. The workhorse of both World War II and the Korean War was the reliable and practically indestructible Bell & Howell Eyemo,

Continued on Page 394

## SOS Ediola 16mm Double System Editor



## SOS Magniola 16mm Double System Editor



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This is the Ediola Model M-16 Senior, the most advanced of its kind. Big clear 3"x4" picture gives easy viewing in motion or still, can be viewed in a lighted room. There's no excess heat, even when film is still. Use the Cue Punch for Work Prints, remove the optical element to clean. 6"x10"x10", only 7½ pounds.

**SOS EDIOLA 16MM ACTION VIEWER**
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Standard Magniola M-16DS, for synchronizing picture and sound tracks, combines Ediola with special Moviola Synchronizer & Remote Speaker; matches sound with picture, giving crisp clean reproduction on both. Flip Top Viewer lets you cue film directly; fingertip release permits handling of individual magnetic tracks.

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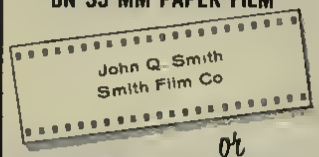


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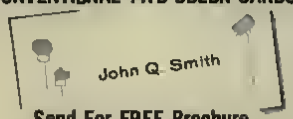


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## WHEN THE ARMY SHOOTS

Continued from Page 392

which performed an outstanding job in combat.

Although the standard Eyemo is small, lightweight, spring-driven, rugged and capable of taking pictures of the highest quality, it still lacked certain other features which the APC considered desirable at the time. Three years ago Lipkowitz prevailed upon Camera Equipment Corporation in New York City to experiment with modifying an Eyemo camera with reflex viewing, a feature he considers invaluable to combat and "cold war" cameramen.

The result is the CECO reflex adaptation to the Eyemo which provides parrallax-free, 10X magnification through-the-lens focusing and viewing. The camera retains the essential spring drive, can be fitted with any desired shutter openings, will operate at a variety of speeds (8, 12, 24, 32 and 48 frames per second) and can be fitted with a zoom lens. It weighs 11 pounds, less lens. Some of these cameras are in regular use by APC cameramen and the results obtained with them so far have been highly satisfactory.

Many Army training and information films require footage of maps, graphs, schematics employing movable arrows, "pop-ons" and "pop-ins." Lipkowitz is particularly proud of the special effects title and insert stand developed by the APC Camera Branch which makes photography of such scenes economical and efficient.

A lathe bench was fitted with a movable mount capable of supporting a Mitchell camera, either Standard or High-speed. As the camera moves either forward or backward, an interlock cable coupled to the movable mount automatically pulls the camera focus. The entire apparatus may be operated from a remote control panel permitting the camera to be moved forward slowly, "zoomed" to any desired section of the object being photographed, or pulled back. Focus is always accurately held.

Lipkowitz believes that most cameramen make ideal directors because of their experience, background and training. Recently, Stanley T. Swed and Vibo V. Valenzio, who lost a leg as a Navy Combat cameraman in World War II, have taken on the director's job in addition to handling photography. The director-cameraman concept is being used on certain type films. For example, on essentially "nuts and bolts" subjects like *Parachute Packing* and *Operation of the Grenade Launcher*, a small, compact crew consisting of a director-cameraman, assistant cameraman, assistant director, grip, property man and general production assistant have been employed with considerable success, efficiency and savings in production costs.

The Army has been cited by many organizations for its record in pioneering teaching and documentary films. Some of the awards given to films produced at the Center include three "Oscars" awarded by the Academy of Motion Picture Arts and Sciences for outstanding achievement in documentary film making: *Prelude To War* (1942), *Seeds of Destiny* (1946), and *Towards Independence* (1948). Other honors are: National Headliner's Club Award for "best newsreel reporting" in 1944; National Committee on Films for Safety accorded highest honors in the general safety field for non-theatrical films produced in 1950 for *Once Too Often;* Venice International Exhibition of Cinematographic Art first prize for the natural science film, *Rodent Control*, in 1951, and *Schistosomiasis* in 1948; Freedom Foundation Award for the film *Voice of the People* (1949), *Communism* (1950) and *International Communism* in 1953. There is also the coveted Peabody Award the Signal Corps shared with NBC in 1954 for a coast-to-coast television presentation. ■

### Dry Process Photography

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Called "Photo-plastic Recording," the new process permits images to be developed in 1/10th to 1/1000th of a second. After the film is softened by heating, microscopic depressions are formed in it by the charges, conforming to the pattern of the image. The film is cooled and the picture results.

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ONE OF THE FIRST SCENES photographed for "Cleopatra." Leon Shamroy, left of the Todd-AO camera, discusses upcoming take with operator Mac Rosenberg, seated behind the camera mounted on boom of Chapman crane

# PHOTOGRAPHING

*The subtle, effective use of colored lighting and dramatic use of Todd-AO camer*

*photography of the industry's most talke*

DIRECTOR of Photography Leon Shamroy signals for a light change on Richard Burton, who plays Antony in "Cleopatra" is third picture which Shamroy has photographed with Todd AO cameras.

THE TODD AO CAMERA, mounted high on elevated boom at right, photographs a broad, sweeping view of Cleopatra's dancers in the vanguard of her procession

VAST THRONE ROOM SET, scene of Cleopatra's coronation, is lavish in decor, was enhanced through subtle coloring in the illumination, effected through use of colored gelatins on lamps

THIS CLOSEUP of Caesar crowning Cleopatra Queen reveals some of the splendor of the picture's settings and costuming, which was adroitly paired up in the artful lighting and photography

# 'CLEOPATRA'

*nd lenses hoving greot depth of field mork the*

*bout motion picture filmed in color by Leon Shomroy, ASC.*

By ARTHUR GAVIN

WITH ALL DUE respect for the contributions of all other artists and creators who worked on *Cleopatra*, credit for the picture's visual splendor and much of its dramatic impact belongs to Leon Shamroy, ASC, who directed the photography. True, there were the production designer, the set decorators and the costumers, each of whom contributed importantly to the myriad physical components of the picture; but it is the lighting and meticulous handling of the camera conceived and executed by Shamroy that give the picture's fabulous sets the

BOOM-MOUNTED CAMERA pulls back slowly as it photographs Cleopatra and her small son being carried down golden steps of huge sphinx on which she made majestic entry into Rome.

LEON SHAMROY, on stepladder, explores a set through tiny finder in quest of desirable camera set up while Writer Director Joseph Mankiewicz (left) discusses upcoming scenes with Rex Harrison

IN THE STRONG LIGHT of a set lamp, Leon Shamroy studies the colors in a sample of set decoration material submitted for his approval by Art Director Jack Smith

scope and splendor that are a visual delight.

The Todd-AO camera has never before been used with such skill to achieve scenes of vast grandeur and with such fidelity of color and detail. The uncommon artistry of the man who directed the camera is evident in every scene. The huge spectacle scenes, such as Cleopatra's arrival on a massive sphinx in Rome, are classics in composition and camera treatment. In the intimate shots, the camera and lighting effectively point up a change in pace or new locale in keeping with the movement of the story. Here Shamroy employed one of his pet techniques—the projection of colored light into scenes to add an aspect of warmth to the decor of the sets and enhance set details. Throughout the arduous assignment, on large sets or small, interiors or exteriors, it was the critical combination of the right lens, camera position and angle and the lighting which enhanced with unusual pictorial impact the sets, the action played upon them, and the players themselves.

SOME OF THE lengthy strands of cable which were required to carry electric power from the 15 mobile power generators located some distance away from sound stages of Cine Sperimentale in order to light the vast throne room set, scene of Cleopatra's coronation

### Some of the Photographic Problems

*Cleopatra* is the third picture which Leon Shamroy has photographed in the Todd-AO process. "I think it is a very fine medium," he says, "the best super wide-screen system that exists today. This is because Todd-AO cameras use anastigmat lenses, not cylindrical optics. You can see in the finder what you will actually get on the screen, and you get excellent detail in the background." Twentieth Century-Fox virtually cornered the market on Todd-AO cameras for *Cleopatra*; they had five of them in Italy for the picture, precluding any chance there might be delays due to a camera breakdown.

Fortunately, camera trouble was the least of the company's production problems. "In the beginning," said Shamroy, "my biggest single problem was working without a script. We had no overall plan on which to project a visualization of the photography. A lot of sets had been built in Italy before any semblance of a script was available. As a result, the director had a very difficult time fitting his action into the sets.

"Another thing that hampered us greatly was the lack of sound stage space to accommodate the sets for a picture of the magnitude of *Cleopatra*. Not

Continued on Page 420

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ON THE SET—Charles Dubin, center, directing "The Loophole" episode of "The Defenders" TV series, briefs E. G. Marshall, left, on action to be filmed in a complicated two-minute moving camera shot

CAMERA HAS MOVED IN for a closeup over shoulder of second attorney and later, an extreme closeup of latter standing and facing camera. Assistant Felix Trimboli is at left; Operator Rayhock is behind camera

# FILMING 'THE DEFENDERS'

**Some of the factors which make the photography of this popular television film series a technically unique operation.**

By LOWELL A. BODGER

SEEN ONE HOUR WEEKLY over the CBS network, Plautus Productions' *The Defenders* is a filmed dramatic series of unusually high quality, both technical and story-wise. The show was created by Reginald Rose, who remains script editor and occasional script writer and closely oversees all phases of production. Though a number of writers and directors have worked on *The Defenders*, it continues to bear a marked style of direct, factual and mature analysis of the legal questions confronted by the father-and-son law firm of Preston & Preston. The topics explored on individual programs have included capital offense, freedom of speech, religious freedom and apparently everything from insanity to obscenity. E. G. Marshall, as Lawrence Preston, and Robert Reed as his son constitute the only permanent cast.

The series is filmed in New York City at Filmways Studios. The director of photography is Morris Hartzband, ASC. A veteran of thirty-two years behind the camera, Moe Hartzband has worked in short subject, feature and TV commercial production. He has seen service in close to a dozen TV series, and some of the notable feature films on which he has worked are *Boomerang*, *Miracle On 34th Street*, *Limelight*, *A Streetcar Named Desire* and *Patterns*. Hartzband has been directing photography of *The Defenders* since the program's inception two-and-a-half years ago.

### The Necessity Of Speed

Though each one-hour segment is filmed and completed far in advance of the date it is aired, *The Defenders*' crew works at high speed, filming all required footage for an entire one-hour show in a maximum of six days plus a few hours overtime. The high-speed operation requires that every corner of the sound stage be continually in some phase of use. Sets are continually being built and struck, with carpenters moving walls and furniture and electricians moving lighting equipment between takes. A high degree of coordination between all hands of the 56-member crew makes possible the preparation of the next set while camera, sound and dramatic participants are working on the present one.

Chief gaffer David Golden, of the crew that made the award-winning *The Hustler* two years ago, supervises basic lighting of a set while Hartzband

GENERAL VIEW OF sound stage during progress of shooting scenes on a key set for "The Defenders." Operator Rayhack, perched atop ladder, prepares to shoot wide angle view of scene. Note 2nd camera at right

and his crew are shooting on another a few feet away. When the previous location is wrapped up, Hartzband, his crew of assistant cameraman Felix Trimboli and operator Michael Rayhack come in and rehearse the next scene with director and actors. Hartzband lights the scene, arranges with the director for camera angles, composition, and camera movement (of which there is a great deal). The large number of moving camera shots, which either begin or end in extreme closeups or may include several completely different angles and setups, require considerable planning. Lighting must be perfect for every phase of the move and for each position at which the camera comes to rest. (One shot two minutes long can take the crew one hour to light and rehearse, and then be in the can in just two takes.)

The average number of takes on one scene varies with director and actor. It is usually less than three but sometimes runs up to seven. The fact that Hartzband is able to plan camera work on a scene and then leave the rest to assistant Trimboli and operator Rayhack makes for a saving of time. "With anyone else I'd have to be in there all the time. Felix and Mike are about the best in New York and can handle follow-focus shots effortlessly," said Hartzband. Crew coordination is so high that often a scene can be "rehearsed on film."

A meeting of one or two hours with the director on the day before shooting of each episode begins is the only forwarning Hartzband is given of the problems the story's photography will present.

Eastman Double-X negative is used both indoors and out. Hartzband rates Double-X at 200 footcandles under tungsten illumination and exposes at f/7. On location he rates the film at the recommended 250 ASA, and almost always uses a 60% neutral density filter. Until recently, Plus X had been used indoors and DuPont Superior 2 outdoors. Hartzband has made the switch due to the "fine-grain, better gray gradation and generally better quality of Double-X. The speed has little to do with it, in fact Double-X is a little too fast for daylight, which is why we use neutral density filters outdoors, as a rule."

Each day's footage is processed at Pathe Labs; rushes are viewed there the following day by Hartzband, the director, one or more crew members and editor Sid Katz. Editing is done in Plautus Productions' editing rooms at Pathe.

Sound for *The Defenders* is recorded on quarter-inch magnetic tape. Recordist is Arty Bloom. In the studio an Ampex recorder is used, operating independently of the camera; on location Bloom uses a Nagra recorder with sync-signal interlock. Jack C. Jacobsen is chief sound engineer.

### Cinematic Style An Important Factor

The factors which make filming of *The Defenders* a technically unique operation deal with the program's particular style. The great number of mobile-camera shots combined with frequent closeups, which are either cut in on or arrived at through camera movement, call for an unusually great deal of planning. The action on every set is photographed not only in master composition and then closeup on each participating character, but also a variety

Continued on Page 425

MORRIS HARTZBAND, ASC, who directs the photography of "The Defenders," is veteran with 32 years experience behind motion picture cameras. He has been photographing "The Defenders" since its inception. Below is assistant cameramen Felix Trimboli.

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EASTMAN FILM

HUMOROUS REMARKS of speaker addressing audience gathered for Browning Awards presentations amuse (from left) Paul Meistrich, Samuel Hyman, and Mrs. Anna Browning of Camera Mart, Inc., who were assembled on stage to congratulate award-winning students.

## Browning Memorial Awards

*Three New York university film makers named most promising film production students of the year*

*Camera Mart, Inc., New York, which for the past 27 years has catered to the needs of film makers, supplying everything from advice to the latest cameras and lighting equipment, recently inaugurated an annual awards program aimed at encouraging the amateur and semi-professional film makers of three New York universities. The first awards were presented to three students May 27th in ceremonies held in the Casa Italiana Auditorium on the Columbia University campus.*

*The award-winning students were Harrison Engle of Columbia University, for direction of the film "Legacy" (17½ min. B & W); David Bienstock of C.C.N.Y. for direction of the film "Longing" (4 min. B & W); and Eli Bleich and Ares Demertzis of New York University for the co-direction of the film "Emil, Joe, Jack, Bob & Bill" (8 min. B & W).*

*The annual awards, known as the Irving and Sam Browning Memorial Awards, are named for the brothers who founded Camera Mart, Inc. 27 years ago. Camera Mart's present management, which includes Samuel Hyman, President, Paul Meistrich, Vice-president, Mrs. Anna Browning, Secretary-treasurer, and General Manager Charles Lipow plans to bestow the awards annually to the three university students achieving outstanding accomplishments in motion picture film making. Eligible are film production students of three participating schools: Columbia University, C.C.N.Y., and New York University.*

*Prof. Erik Barnouw of the Department of Film, Radio and*

Continued on Page 418

# 'DAVI
# PHOTOGRAPHI

By LEONARD HIRSCHFIELD
*VPI Productions, New York, NY*

THE FOLLOWING *address was presented by cinematographer Leonard Hirschfield at the presentation of the first Irving and Sam Browning Memorial Awards in New York, May 27th For the edification of assembled student film makers, and using "David and Lisa" as the example, Hirschfield discussed the problems of making a successful low-budget film for theatre exhibition. His talk is reprinted by permission from* BACKSTAGE, *New York film industry trade paper.*—EDITOR.

IT IS UNFORTUNATE that Frank Perry the director of the film *David And Lisa*, is not here with us tonight because I think that the key to the whole problem of making low-budget films really boils down to the presence of one dominant creative force—the director. In this case, that man was Frank Perry and it is very difficult for me to speak for him: but he deserves every credit he has received for his contribution in making *David And Lisa* what it is today

For those in the audience who may hope to make low budget pictures, I think the most important initial step is to pick the right people. You can talk about equipment, facilities, theories, etc., but I think we were very lucky when making *David And Lisa* to have people with us who were dedicated, who worked very closely together, and who wanted nothing more than to make the best film possible.

My specific job as Director of Photography was to put on film a very sensitive story as inexpensively and yet as artistically as possible The picture was not made in a studio but entirely on location This presented the problem that is most common in documentary films, that of using available facilities However, the story is not a

# AND LISA'—A CHALLENGE

**The problem was to put the story on film as inexpensively and yet as sensitively as possible, says Leonard Hirschfield who photographed it.**

PREPARING A NEW camera set up for scene in "David and Lisa" under direction of cinematographer Leonard Hirschfield. Looking on are Frank Perry (white shirt, on right) Director at the film, and actors Howard De Silva and Keir Dullea

documentary. It is a theatrical and dramatic story, and it demanded all the techniques that are used in the best Hollywood-type films

It was my hope to involve the camera in the story. I think that to a certain degree we achieved this, thanks to Frank Perry's understanding of my particular problems and his adapting to them.

For example, the last sequence of the story takes place on the steps of the Philadelphia Museum. In the initial script, the sequence was begun at night. Lisa has run away from school and is trying to enter the Museum to make contact again with the family-group statue which stands in the lobby. She fails to get in, because it is night time and the Museum is closed. Now, if we had a Hollywood-type budget, we could have very well lit the whole Museum front with Brutes, using perhaps forty electricians. We didn't have that kind of money. So it was my suggestion that we make the scene a sunrise or dawn scene by simply adding to the script a time transition line in the scene immediately preceding the Museum sequence. By making it dawn, we probably saved four days of shooting, and speaking realistically it would have been impossible for our small unit to light up the entire front of the Museum at night. Yet, interestingly enough, the mood that the available light gave us at dawn greatly enhanced the ending of the film

LEONARD HIRSCHFIELD of VPI Productions, New York, who directed the photography of "David and Lisa," low budget black-and white production

The school itself presented unusual problems in photography. It was not a very handsome school, and was furnished mostly with furniture from the Board of Education of Philadelphia. It was actually an abandoned building which we took over, and it had very little available electricity. Those of you who are independent film makers will invariably face this same problem of having to make do with the facilities at hand when working in remote locations. We had available about 250 amperes, which is about the amount of power required to light a single Brute arc lamp. We used small Colortrans, Mole-Richardson spot lights, and other lightweight equipment to photograph the school interiors.

The problem in the school was to give each of the rooms a different feeling. We spent two weeks out of a total of five shooting interiors in the office of the school analyst, showing his sessions with David. This was a very small room, and would have been very dull and uninteresting if we had just photographed it under one mood of lighting. Frank Perry therefore adapted the story so that we could shoot some of these office scenes at night, which gave us the chance to do low-key mood lighting. Some of these scenes were staged against the windows so that we could use the exterior as a background.

The important thing to remember about making low-budget films and photographing them is to make full use of what you have at hand. Don't think of grandiose ideas! There are no so-called "production shots" in *David And Lisa* The photography tries to enhance the story and is a star in itself. Actually, it is difficult to talk about photography as a separate entity because you cannot really separate it from the direction, the story or the acting.

Continued on Page 426

IN A SUN-DRENCHED enclosure of the Portland Zoo, Belle walks her baby, Packy, while visitors marvel at the sight of a tiny, new born elephant—said to be the first domestic-born pachyderm ever to survive. Packy's advent into the zoo world was recorded on 16mm color film by Portland cinematographer Bob Snethen.

# FILMING THE BIRTH OF AN ELEPHANT

**635-day cinematographic vigil nets rare motion pictures of Portland Zoo pachyderm's blessed event.**

By BOB ALLEN

BOB SNETHEN patiently waited 635 days to shoot one of the most extraordinary motion picture scenes on record—the birth of an elephant.

Then, when the time came, he had about 30 seconds in which to expose 17 feet of color film. The memorable event, which unfolded in a darkened interior of the Portland (Ore.) City Zoo, was shot through a foggy, double-glass window. The scene is now the climax of a documentary film for which cinematographer-producer Snethen has yet to find a buyer. Yet, he would do it all over again, he says.

The reason: Snethen accomplished a cinematographic first. He is believed to be the first cameraman to record the birth of an elephant with a a motion picture camera. When "Packy" was born to "Belle" at the Portland City Zoo, during the spring of 1962, it marked the first time that an elephant, born in this country, had survived. In fact, so little was known about the natal habits of elephants that Belle's doctors were hard-pressed to find out what could be expected of her. The last birth of an elephant in the United States was at the Salt Lake City Zoo in 1918. However the mother pachyderm trampled one of her newborn calves to death and none of the others survived infancy.

The color film of Packy's birth which Snethen has put together traces Belle through her period of gestation and Packy through birth and early life. It is certainly the most authoritative documentary ever done in any format on this topic. Snethen's technical advisors were among the world's foremost experts on animal gestation.

Packy's birth drew world-wide attention to the Portland Zoo. However, only four persons other than Snethen sat the long nightly vigils

Continued on Page 422

AS THE TIME FOR Packy's birth became imminent cinematographer Snethen, with his Bolex 16 poised for action, maintained a 'round the clock vigil at the zoo (Photos by David Falconer)

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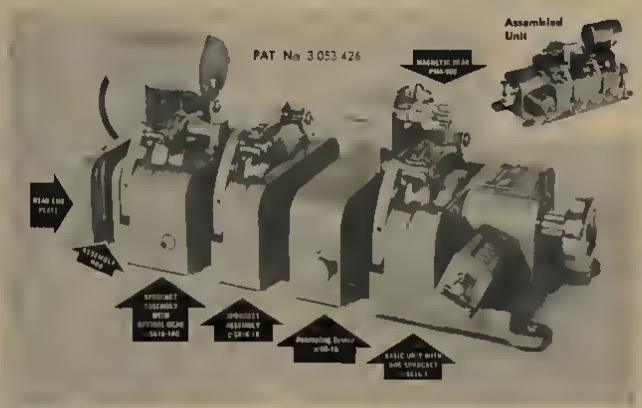


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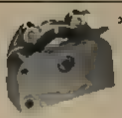

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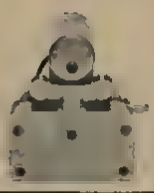

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DIRECTOR OF PHOTOGRAPHY James Wong Howe, ASC, lines up Mitchell camera for a location scene for Paramount Pictures' "Hud." Mounted on front of the camera are the Panavision lens and widescreen sunshade

FOLLOW SHOT of Patricia Neal is made in close-up by camera operator with Mitchell camera mounted on shoulder brace. Watching the proceedings closely is cinematographer Howe, 2nd from right

# The Photography Of 'Hud'

**James Wong Howe reveals some highlights of photographing this monochrome production in Vistavision—most of it on location in remote Texas cattle country.**

By HERB A. LIGHTMAN

ALL OF THE exteriors and many of the interior scenes for *Hud* were shot on location in the Texas Panhandle. Even before the picture had been completed, it had made a tremendous impact on the citizens of Claude, Texas, and also on many touring motorists who were confused by the temporary change wrought by the film makers. For the production company had moved into Claude, re-named it temporarily, repainted some of its oldest and most reliable landmarks, and even gave new names to prominent stores and buildings on the town's main street. Claude, with the kind consent of the town's administration, suddenly became Vernal, Texas—story locale of *Hud*—and remained so for the five weeks the company was in production there.

Claude is a picturesque little cattle country community, 29 miles east of Amarillo, which the film producers found afforded just about every location site needed for the picture. There was the vacant two-story ranch home on the 100-year old Henderson Ranch, 12 miles east of Claude, which was used to represent the Bannon Ranch house of the story. Unoccupied for ten years, the house, which stands in lonely solitude on the barren plains, was repainted, a front porch added, and otherwise modernized to the period by Paramount studio work-

men to serve as the principal set for the film.

*Hud* is a realistic film drama of contemporary Texas, produced by Salem-Dover Productions for Paramount release. To photograph it in Panavision, the producers chose veteran director of photography James Wong Howe, ASC, noted for many outstanding photographic achievements in black-and-white—among them "The Rose Tattoo" for which he received an Academy Award in 1955. *Hud* proved a highly challenging assignment for Howe and his ability to photograph a picture in back-and-white with unique pictorial impact.

Following a preview of the picture in Hollywood, I talked to Jimmy Howe about the photography. Some of his cinematographic theories and techniques, as applied to the filming of *Hud*, are revealed in the following interview with him:

*Q—Was this your first experience in working with Director Martin Ritt?*

A—Yes, and I enjoyed very much working with him. He is completely honest in his work and he has a fine sense of camera. I find that the cameraman's job is so much easier when working with a director who understands the use of the camera and appreciates the cameraman's problems. I have worked with directors who seemed never to consider the camera at all. They were mainly concerned with directing and considered the camera merely an instrument. Well, it is an instrument, a wonderful instrument, but it has to be used properly as an integral part of motion picture and television production. It is the element most directly concerned with telling the story and everything must answer to it. A creative director and cameraman can do important things with camera angles and lights that may be quite subtle, but if the audience is made aware of them, their impact is lost. I think the whole secret of good photography and lighting is never to be too obvious.

*Q.—That area of Texas in which the location scenes were filmed, it seems to me, doesn't have much to offer pictorially. How did you manage to inject visual impact into scenes filmed here?*

A.—It is true that part of Texas is flat as a pancake, with not a tree in sight—and this is enough to discourage any cameraman. However, we took advantage of the barren land and made it pictorial. For example, for one important scene we elevated the camera crane so that when Hud pulled away in his car and moved down the long, receding ribbon of road, we were shooting down at a very low horizon line, which accentuated the feeling of space and the vast land area. This became a motif and a symbol of the man's character. It is many small details like this that, when put together correctly, create visual impact in drama.

*Q.—The use of high camera angles, I felt, was quite*

Continued on Page 414

THE THREE SCENES above are representative of the range of photography which delineates "Hud" on the screen. Much of the picture, including many interiors, was shot on location in and near a small Texas cattle community. Top photo is a night scene in which headlights of car furnish only illumination on player in foreground. Center: location interior in which Newman and Patricia Neal enact important scenes. It shows nice balance between fill light and natural light coming through windows. Bottom: bulldozer covers mass grave of slaughtered cattle—a scene which Howe said he would prefer to have filmed on a dull, overcast day.

FIG 1—ColorDyne "1000" Dimmer has maximum capacity of 1000 watts, utilizes latest silicon symetrical switch in place of rectifier. Other models handle 2,000 and 5 000 watts. Small remote control unit is shown at B

FIG 2—ColorDyne multiple dimmer control houses six individual dimmer units which may be pre-set to any light intensity. The unit C at left is the Master Dimmer Control used in conjunction with it

# ColorTran's Electronic Dimmer System

**New technical advances have resulted in the production of compact, lightweight and highly efficient dimmers for Q-I and incandescent lamps used for motion picture set lighting.**

COLORTRAN INDUSTRIES which brought to prominence the use of boosted-voltage illumination for motion picture photography, introduced last month its line of ColorDyne Dimmers for use with quartz-iodine and incandescent lamps. Development of the new, lightweight lamp dimmers follows closely other notable developments by this aggressive photo industry manufacturer. Not only have ColorTran lamp housing and power converters been improved to meet the needs of today's budget-minded film makers, but early last year the company introduced its new Quartz-King lamps which utilize the revolutionary quartz-iodine lamp source. Now ColorTran has come up with a complete system of electronic dimmers which offer television, motion picture and still photographers infinite intensity control of photo lamps, either singly or in groups.

Heart of the system is the ColorDyne Dimmer (Fig. 1). Its unique solid state circuitry makes full remote control possible for the first time, as well as a host of other advantages. It uses a newly designed silicon symmetrical switch (SSS) in place of fragile and less efficient silicon controlled rectifiers (SCR). It is small, light in weight, and can be mounted directly to the light stand, as shown in Fig. 4. Any combination of incandescent or quartz-iodine lights may be used up to the rated capacity of the dimmer. The 4-pound ColorDyne 1000 is rated at 1000 watts total; the 7-pound ColorDyne 2000 at 2000 watts; and an 11-pound 5000 watt model is now in production.

All incandescent and quartz-iodine lamps, including focusing types, rated at 3350°K and 3450°K can be operated at 3200°K, without filters, with greatly increased lamp life. With an efficiency factor of 96 percent, the ColorDyne dimmers extend the life of incandescent lamps better than 50 percent.

Of special interest to motion picture and TV cameramen is the unique electronic circuitry that effectively suppresses filament sing and also precludes microphone and TV camera interference. This is accomplished through the use of a choke coil filter circuit with a rise time of 450 to 500 microseconds. The AC-operated dimmers are protected for cold starting and against overloads and short circuits by a separately-fused input circuit.

An important feature of the ColorDyne dimmer is the fact it can be remotely-controlled regardless of its position on the set. Main

FIG 3—Rear panel of the multiple dimmer control pictured at left, showing the six 4-prong receptacles that take the control cable terminals—each leading to an individual lamp dimmer

power cables do not have to be run to the control position. The dimmer remotes require only about 10 milliamperes of current and can be located as far away as 500 feet from the dimmer itself. Thus, if the dimmer is mounted directly on the lamp standard, as shown in Fig. 4, the remote control unit can

Continued on Page 429

FIG 4—Method of mounting ColorDyne dimmer on lamp standard of lighting unit it controls. Dimming can be accomplished at the lamp position, or by remote control from a distance


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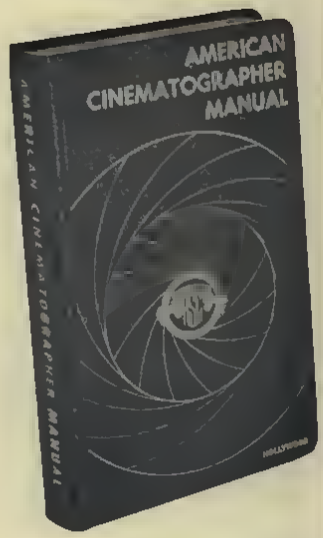


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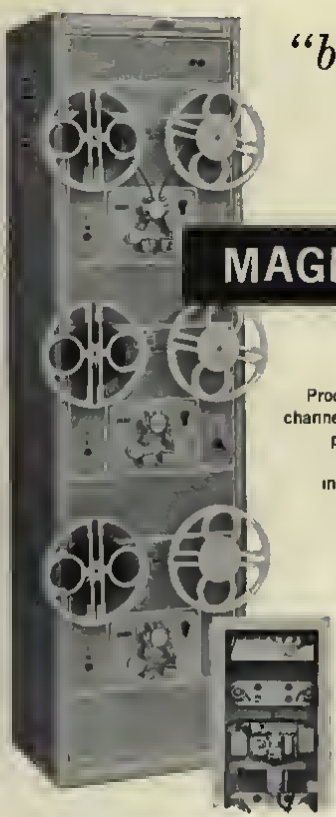

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Rear interior view of Selsyn motor electrical interlock

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## THE PHOTOGRAPHY OF "HUD"

Continued from Page 409

*effective. I was somewhat surprised, however, that you did not use many low camera angles outside on exteriors.*

A.—No—we used them more indoors because we wanted to show the ceilings of the rooms We had hoped to get dramatic skies in our exteriors but with production schedules the way they are today, you can't wait for them. We briefly considered printing clouds into these scenes optically, which can be done easily enough. But this presents a handicap in that you can't pan in such scenes and must keep the actors free of the areas where clouds are later to be superimposed, so they do not cross in front of the effect. So, we simply forgot about it and let nature take its course.

The ranch house in the film is supposed to be miles from nowhere—in an area of vast desolation—so we had to be careful not to show other ranches that were close by. Although there were houses only a mile or so away, we effectively pushed them way back by using a 25mm wide-angle lens Some of the photography was done in a violent windstorm, and proved very difficult Then, the wind died down before shooting was completed and we had to have a wind machine fill in and blow dust through the background so that the remaining scenes would match those filmed earlier.

*Q.—I understand that between 50% and 60% of the film was shot on location.*

A.—Yes—we shot all exteriors there and some of the interiors—places like the theatre, the church (which sequence has since been deleted), and a variety store.

*Q.—Were there any special problems peculiar to location filming encountered on this picture?*

A.—Shooting on location, where we work in actual sets, always involves special problems, but I like it. You may not have the catwalks overhead to hang lights as in a studio, but this can be good. If you have them you automatically use them. They are handy and save time, but using such conveniences becomes a habit After many years in the motion picture business, of course, you become very conscious of time, so that when you work in location sets you have to maintain schedule by changing your methods accordingly. but not necessarily your style

*Q.—What are the main adaptations in technique which you must make when shooting on location?*

A.—In the first place, you invariably can't hang lights up high, so you have to light from the floor. You can't use much backlight, but I think that can be to your advantage, because backlight is often over-used. It became popular in earlier days and the chief reason we backlighted then was to separate the actor from the background. But now there are other ways of getting separation—like playing a light background against a darker image in the foreground, or vice versa. However, we don't always need a halo following the actors around. Sometimes you look down when you are making a long shot and you discover there are four or five shadows of the actor on the floor, created by all the backlights. It spoils the illusion. The audience may not know why, but they are conscious that something is wrong. Also, if you have pan and dolly shots to make, it is a problem keeping all those lights out of the lens; the only way you can do it is to play the lights off camera—to one side. You can't tell the director that he must not pan or dolly there, because the shot may demand camera movement Certain directors and art directors fully understand the potentials of the camera, the different lenses and camera movement. They justify camera movement not for the sake of movement alone, but because the actors move and the camera properly should follow their action. The story dictates the action and the camera movement. On *Hud*, Martin Ritt wanted certain pan shots. They were necessary —and it was up to me to find ways to rearrange the lights to get them out of the way of the camera while still making everything seem simple.

*Q.—What about the problems of making dolly shots in some of those small interior location sets?*

A.—Some of those interiors were so small that we had to use a wide-angle lens to get any sort of establishing shot. We didn't use too many dolly shots inside—nor did the director want to use a zoom lens as a substitute, which may seem surprising since he comes from live TV. He simply has

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## NEW

The projector is a converted front shutter Simplex with a two pin intermittent. 16mm or 35/32 film runs at a speed of 144 ft. per minute while 35mm film runs at a speed of 165 ft. per minute.

1. A variac controls the light intensity.
2. A 500 watt lamp is used for 16mm and a 1,000 watt for 35mm (a blower is used to cool the lamphouse).
3. A 2½ inch projection lens is furnished with each unit.
4. A start-stop lever controls the power to the lamp and motor.
5. The magazine and take up core takes up to 3,000 ft. of film
6. Upper guide rollers are made to handle the film from either direction of the feed reel.
7. A free wheeling take off flange is provided in the magazine.
8. A lamp near the takeup reel permits hand inspection of the film prior to takeup.

## NOUVEAU

Le projecteur contient un obturateur Simplex anterieur transformé avec deux clavettes intarmittent. Les films de 16mm ou 35/32 tournent avec une vitesse de 144 pieds à la minute, tandis que les films de 35mm tournent avec une vitesse de 165 pieds á la minute.

1. Le regulateur de voltage d'intensité d'eclairage.
2. La lampe de 500 watt est nécessaire pour les films de 16mm, et de 1000 watt, pour les films de 35mm (un ventilateur est mise pour rafraichir le chambre de la lampe)
3. L'objectif de 2½ est instalé.
4. La manette de mise en marche et d'arret controle en meme temps la lampe et la moteur.
5. La boite de films avec noyau peut contenir 3000 pieds du films.
6. La roue supérieure est construite de menière de recevoir le film dans les deux directions, nourrie per la bobine centrale.
7. Une roue est instalée pour libérer rapidement le film de la boite.
8. La lampe se trouve pres de la bobine recepteuse, et donne toute facilité pour inspecter le film e main dans le projecteur.

## NUOVO

Questi proiettori sono Simplex transformeti, otturetore al fronte, maccanismo di scatto di due punte. La velocitá di proiezione in 16 o 35/32mm e di 144 piedi per minuto, e in 35mm, di 165 piadi per minuto.

1. Controllo manuale delle luminositá della lampada.
2. Lampada di 500 watt per 16mm e di 1000 watt per 35mm.
3. Obbiettivo di proiezione di 2½".
4. Meniglia per controllo di motore e lempeda di proiezione.
5. La cassetta porta pellicola puo contenere 3000 piedi.
6. I rulli superiori di guide sono construiti per operare con film provenente di ambi lati della bobina svolgitrice.
7. Disco con monteture sporgente nel magazzino.
8. Una lampadina illumina la bobine avvolgitrice, permettendo l'ispezione manuale del film prima che si avvolga nal proiettore.

## NUEVO

Esta máquine es un proyector simplex convertido, obturador al frente y movimiento intermitente a doble grifa. Pere 16mm o 35/32mm, la velocidad fija de proyección es de 144 pies por minuto, para 35mm es de 165 pias por minuto.

1. Un reostato controle la intensidad de le lampare de proyección.
2. Para 16mm se usa una lampara de 500 watt, y una de 1000 watt pare 35mm (un chorro de aire ventila les lámparas en ambos casos).
3. Cada unidad está provista de un lente de proyección de 2 pulgadas y media.
4. Una pelanca de control opera el motor y la lampara simultáneemente.
5. Capecidad de proyección: rolios de hasta 3000'.
6. Los rodillos de guia superiores operan con la película en embas direcciones.
7. La tapa de la bobine de carge es desenroscable.
8. Una lámpara ubicada junto e la bobina de tome permite la inspección menual de le pelicula antes que se rebobina en le bobina superior del proyactor.

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found that the zoom lens has been overworked I don't care lor it either because it produces just a flat frame coming toward you. In a zoom shot the perspective is static—the camera doesn't pass anything and you have no sense of true movement. It is just a set composition being blown up larger by degrees.

*Q—I noted that there was an absence of projected shadows in the interiors you filmed on location Was this due to any lack of cukaloris or other devices on the location site?*

A.—On this picture I didn't use a single artificial shadow produced by devices such as the cukaloris or gobo Often, when I see such shadows on the walls of a set I wonder what their source is supposed to be They are decorative, but I seldom use them, because I believe in creating mood through gradations ol light—varying textures and tone values—rather than by throwing in artificial shadows. I want more purity in my lighting and camerawork.

*Q Do you feel that you can achieve this purity in technique when filming on location?*

A.—Yes, I think that working in location sets can actually simplify things—mainly by eliminating the need lor a lot of backlight and overhead light You have to stay away from flatness, of course, but you can take a key light and put it right over the camera just above the actor's eye level and get sufficient roundness. For example, if you light a round bottle and hit it right in front, it doesn't look flat because the light lollows the contour of the bottle and falls off gradually at either side Many of our biggest stars, because ol lacial structure, must have their key light directly above the camera lens, with just a little soft light added to fill in.

Any cameraman who knows lighting technique can always light a set somehow. But you will find that when you have space problems, for example, your set tends to come out better with simpler lighting that is invariably more effective, too. It looks well—it looks real I think no matter what you light —a night club, a circus or a nice home— you should light it as naturally as you can. I have come to realize that the best lighting is true to the subject, but it took me many years to find this out I used to do a lot ol things witb lights that I shouldn't have heen doing You believe at the time that is the thing to do and that it shows what a fine cameraman you are You want to demonstrate what you can do with all those tricky lights, but the tendency sometimes is to get carried away with lighting, to over-dramatize.

*Q—Do you still have to fight this tendency?*

A.—Not so much any more. Our problem on *Hud*, lor example. was to make our interiors *not* look like movie sets. I could have lighted the location sets and very easily made them look like studio sets by using cookies and other lighting effect gadgets, but I resisted the impulse. To illustrate my point the actual store interior seen in this picture was lighted more or less like a country store is actually lighted I had them turn on the regular store lights to get the leeling of how it was illuminated. Then I simply built up the established lighting a bit more and shot it that way In other words, I didn't give the lighting my " special touch" to make that store look like *I* wanted it to look—but the way it actually looked.

When we got back to the studio, of course, the interiors shot on the stage had to be lighted to match our location lighting. To make sure it would, ceilings were included on all the sets whether they were to show in the photography or not, so that I would automatically bave to light in the same way. I didn't find that the use of ceilings slowed me up at all

I think there is a growing trend toward utilizing more actual locations rather than so many studio sets. Motion picture art directors are very good at creating authentic sets and usually manage to get very real character into them—but it is the lighting of those sets that often makes them look stagey.

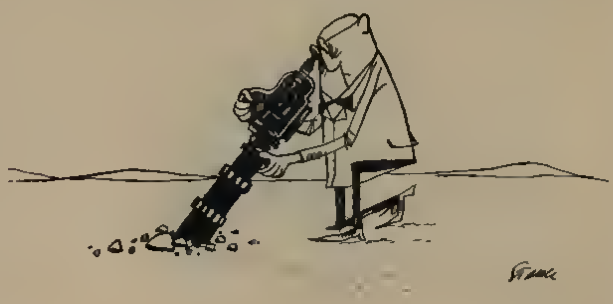
*Q—In Hud I noticed that there was no obvious use of reflectors or booster lights to provide fill light in exteriors Was this a deliberate effect, part of your photographic style on this picture?*

A. Yes. I did not want audiences to be aware of light coming from any particular place, but to leel that the light was naturally reflected from the ground I used both sunlight reflectors and booster lights, of course, but I avoided as much as possible showing them at work, and I tried to be especially careful not to wash out the shadow side of actors faces.

*Q. I noticed that you kept both the sky and faces in good rich tones. What filter or combination of filters did you use to achieve this result?*

A.—The characters portrayed in the picture were western outdoor people and they naturally would be tanned by the sun. I don't believe in the kind of photography where everything must balance and where all the laces are made up in the same skin tone In real life it is not that way—some people are more tanned than others Those who are out in the sun a great deal are darker than, say, bank clerks who work indoors I did want good rich skies, but I knew that if I used a yellow, orange or light red filter it would darken the sky and also tend to lighten skin tones So I used a light green filter which darkened the sky and also kept the faces dark.

Paul Newman has very light blue eyes and you have to be very careful



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not to "lose" them photographically. So you have to light him a little higher to keep the key light out of his eyes and then use a very soft fill for a catch light. If you are not careful, and get both the key light and fill in his eyes, you may wash them out.

*Q.—I noticed that all the night sequences in the picture were actually shot night-for-night. What advantage was this over day for night filming?*

A.—Shooting day-for-night is the easier way to do it, but not the most effective. At certain times and under certain conditions you can filter the sky down, underexpose slightly and get a good night effect, but where a big sequence is to be played where it is necessary to change angles sharply it is not possible. You can never match the skies, because whenever you shoot against the sun the sky is always lighter than when you shoot away from the sun. If you pan all the way around, the sky changes from deep blue to pale blue. It is jolting to an audience when you cut suddenly from one angle to the other and the skies don't match.

*Q.—I was especially impressed with the night sequence in which Hud*


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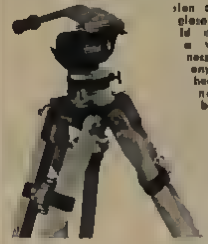

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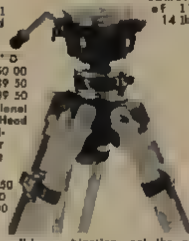

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*bumps the younger brother's truck off the road and they discover the father's body lying in the glare of the headlights. What special problems did you encounter in lighting that?*

A—I had to have an excuse for a light source so that the father's body could be seen in the dark We motivated this by having the truck go off the road The boy gets excited, and jumps out, leaving the headlights on. We now have an excuse for a light source. This sequence was shot in the dead of night on an absolutely black country road. In order to light the faces as the characters drove along in their vehicles I tried to simulate the natural spill from the dashboard light I used one photoflood lamp, mounted under the dash. Then I hung a light on the opposite side so that it would create a feeling of flare from the headlights bouncing back off the road. We shot many of our closeups for this sequence actually in the car without the use of process, and they were very difficult to photograph; others were shot later in the studio against a process screen.

*Q—The greased-pig chase contest was a very funny sequence in the film. However, I imagine it offered some special lighting problems Can you describe some of them?*

A.—Yes. The sequence was filmed in Griffith Park, at one of the riding academies We were shooting in a large ring and we didn't know which way the pigs were going to run, so I had to light the entire area Small hulks were strung around the ring to show in the picture and establish a light source I mounted several sky pans up high on several poles that surrounded the ring to produce a more or less overall flat lighting On the roof of one of the huildings I placed a few 10KW lamps concentrated on the people in the grandstand. I just lighted the area rather generally because I couldn't outguess the pigs. Besides, there is only so much you can do by way of artistically lighting a greased-pig chase We used several cameras on the event equipped with a range of lenses from wide-angles to telephotos for closeups. The main problem here was avoiding picking up the other cameras

*Q.—Now that you've seen the completed film, do you feel that the photography came out the way you hoped it would?*

A.—There is one sequence that disappointed me a little—the one involving the shooting of the cattle. There wasn't supposed to be anything beautiful about that action But on the day that we started filming it a lot of fluffy clouds decorated the sky. Every time I looked up and saw those clouds I hated them What I really wanted was a bleak, early-morning sky, but the clouds remained so we had to go ahead and shoot anyway. Everytime I look at that sequence now and see those pretty clouds there it frustrates me because it's too beautiful to be in keeping with the scene I personally can't believe that sequence at all ■

## BROWNING MEMORIAL AWARDS

Continued from Page 404

Television at Columbia University, Mr Yael Woll, Director of the Institute of Film Techniques at C.C.N.Y., and Prof. Haig P Manoogian of the Dept. of Television, Motion Pictures and Radio at New York University, chose the most promising film production students of the year at the schools named and presented the award plaques

Preceding the presentation of awards and screening of the winning films was a discussion of the problems involved in making independent low-budget films Among those leading the discussion were several of the people who were active in the production of *David And Lisa:* Leonard Hirschfield of VPI Productions, who was Director of Photography; Irving Oshman of Vision Associates, who was the Film Editor; Miss Janet Margolin. who is the "Lisa" of the film, and Dr. Theodore I. Ruhin, author of the original story.

Mr Hirschfield, whose comments are reprinted here in a separate article, pointed out that "the secret of making low budget films is to pick the right people."

Mr. Oshman emphasized that *David And Lisa* was entirely plotted on paper before a foot of negative was exposed in the camera And although the shooting ratio was about 9 to 1, most of the footage was usable and could have been incorporated into the

film had it been edited from a different point of view.

Dr. Rubin discussed the validity of the psycho dynamics of the characters in the film, and Miss Margolin related some of her personal reactions and experiences in the course of making *David And Lisa*.

Mr. Paul Meistrich discussed the motion picture background of Irving and Sam Browning, their experiences in the early days of film making, and the ready help of encouragement they gave young film-makers throughout their lifetime. He also said that the Browning brothers were the first to introduce the Arriflex Camera in the U.S. and were instrumental in persuading Robert Flaherty to use this camera in making his famous "Louisiana Story."

As part of the Irving and Sam Browning Memorial Awards, The Camera Mart, Inc. is granting each of the four award-winning students a $150 credit towards the rental of professional motion picture equipment plus a substantial supply of raw film. Du Art Film Laboratories, a major New York laboratory participating in the awards program, has offered to process this negative film without charge. ■

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## "CLEOPATRA"

Continued from Page 308

only did we eventually occupy all the sound stages at Cinecitta Studios in Rome, but we took over a little two-stage studio across the street called Cine Sperimentale The two stages were altered—merged into one—and here the large throne room set was constructed Our next problem here was lighting Cine Sperimentale has not the required electrical output for picture making as we know it—they have only about 3,000 amps of A.C. current.

"To solve our problem here, we rented fifteen gasoline-powered electric generators and set them up about a quarter of a mile from the studio The generated power was fed to the sound stage over a huge network of cables This power set-up posed additional problems for us in that our set lighting units had to be divided up and a certain number of them operated off each generator. There were no switchboards, so we either killed a generator or killed the lights individually at the unit itself when necessary Often the generators would get overheated or run out of gas; but we struggled through it

"For heavy volume lighting we had 50 Brutes and we tied up every 10K we could locate We required a tremendous amount of cable and much of it had to be made especially for us We had to rig so many big sets, there wasn't enough equipment for them all. It was a constant trial for all of us—having to constantly switch cables and lamps from one set to another."

Another major problem he and his crew encountered, Shamroy said, was the language barrier Shamroy brought most of his key men from Hollywood But there was a tremendous staff of Italian workmen to deal with and this required interpreters, and more important, workmen who could speak both English and Italian

Pietro Portalupi, ASC, an eminent Italian cameraman, was engaged to work with Shamroy and to do second unit photography on the picture; he proved of inestimable value in the matter of dealing with Italian technicians and workmen. It was Portalupi who directed the photography of the Battle of Moongate and a number of other large sequences in the picture

"I will say this about the Italian technicians," said Shamroy. "They had a great deal of respect for us and were extremely loyal, especially in their relationships with my gaffer Fred Hall and grip Leo McCreary.

"One problem we had was keeping them quiet while the camera was rolling It seems they are not accustomed to remaining quiet on the stage while shooting is going on But they soon caught on and eventually the problem was licked I also found some very fine artisans among the Italian studio workers—particularly the plasterers and sculptors

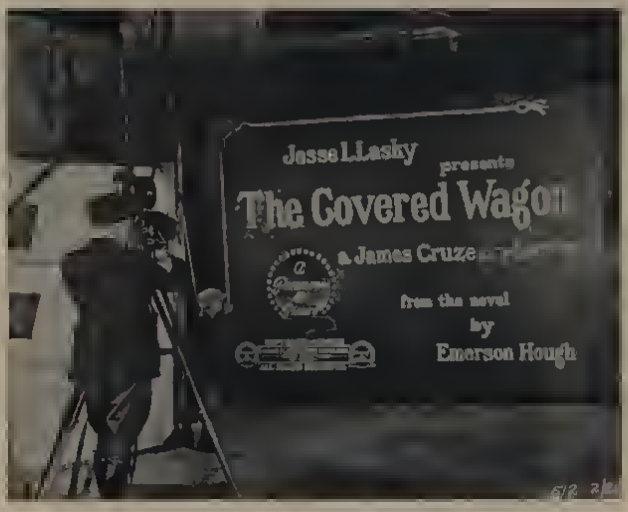
Unlike in Hollywood, where studio sets are cut and partially erected in the mill, then transported to the sound stage and set up, in Italy they build the sets entirely on the sound stage This caused numerous delays, Shamroy said It meant that after completing the shooting on a sound stage, the company had to vacate it until the old sets were cleared and new sets erected and decorated.

Another sound stage difficulty Shamroy encountered in Italian studios was the scaffolding for the lights. It was cumbersome, making it almost impossible to mount lights up high, except for certain shots "Following the custom in Hollywood of illuminating sets from overhead," said Shamroy, "we had to hang the lights for each set, and this proved quite a problem with 10K's having gelatins and holders mounted on them, plus the ever-present danger of mike shadows which the lights might create."

### Some of the Outstanding Scenes

Among the eye-dazzling scenes that make up the 4½-hour long *Cleopatra*, most reviewers agree that Cleopatra's entrance into Rome is the most magnificently staged and photographed. It is a supreme moment in the picture when Cleopatra, with her young son at her side, makes her triumphant en-

## FLASHBACK TO YESTERYEAR

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trance sitting on a gold throne high on a majestic sphinx hauled by hundreds of slaves, and preceded by scores of exotic dancers. Shamroy's camera captures every moment of this on wide color film in dramatic camera angles that give emphasis to the grandeur that production designer John De Cuir lavished on the set and costume designers Irene Sharaff and Renie devoted to the dancing groups, which choreographer Hermes Pan so skillfully trained and directed. For the many scenes in this lavish sequence, Shamroy used one camera mounted low on a dolly and another on a large Chapman boom. The mobility thus achieved was both effective and productive of some of the most breathtaking color photography ever seen in a motion picture.

The arrival of the Queen's royal barge at Tarsus for the rendezvous with Antony was a most difficult night sequence to photograph. Staged in a harbor on the Isle of Ischia, the barge was some 300 yards distant from the camera. To light it and the several structures in the harbor as well as the foreground required every light unit that the company could scrape up; these were carefully concealed on boats moored in the bay and behind stone walls and other objects in the scene to throw light into the huge panorama. "This was the most difficult scene in the whole picture for me to light and photograph," Shamroy said. "Ironically, it has been reduced in the editing to a mere flash on the screen."

The huge set representing the interior of the Queen's barge was a different story. Here Shamroy had all the advantages of the sound stage and was able to use brilliant colored lighting to enhance the mood of the celebration, which Cleopatra staged there for Antony. The delicate hues which Shamroy added to the set illumination was by means of colored gelatin filters mounted in front of the lamps.

Colored lighting also played a dominant role in the illumination of the huge and lavishly decorated throne room set, where the coronation of Cleopatra takes place. This is the set which required the physical merger of two sound stages of Cine Sperimentale. It also presented the most difficult lighting problems of all the interiors in the picture, for it was here that power for lighting the sets was supplied by the 15 distant mobile gen-


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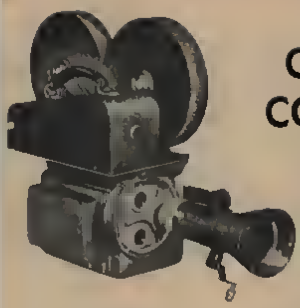

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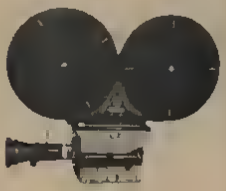

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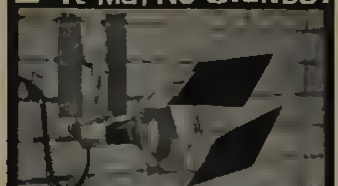

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erators through a vast network of cables. Shamroy lit this scene with yellow and white light to give rich emphasis to the dominant gold decor of the set, furnishings and costumes.

While perhaps not one of the biggest scenes in the picture, the one in which Cleopatra arises from her gossamer shrouded bed to visualize the slaying of Caesar in the Curia of the Senate is one of the most artfully photographed of the picture's intimate scenes. The camera dollies in toward Cleopatra, shooting through the transparent drapery surrounding her bed. And when the drapes are parted as the camera moves in close on Cleopatra, the soft texture in the photography effected by shooting through the drapes is continued—an effect Shamroy achieved by mounting a piece of the same gauze material in front of the camera matte box. The effect is repeated later when, after Caesar's death and Cleopatra has married Antony, the two play a scene in the same bedchamber.

Last but not the least important of the spectacle sequences is the furious naval engagement at Actium, where Antony's forces are defeated by Octavian's. This sequence combines miniature shots with live action shots that are unusually effective because of the studied placement of the camera and the choice of lenses used.

The Battle of Moongate is notable for the vast area that was so effectively covered by photographic illumination. Some 20 Brutes plus a large number of 10K's with gelatin filters were used to light the scenes, which were staged on the back lot at Cinecitta and photographed by Pietro Portalupi.

Understandably, it is impossible to cite all the scenes and sequences in this picture the photography of which is equally deserving of mention here. But one additional sequence merits special mention—the Battle of Pharsalia, which opens the picture. Staged in the atmospherically clear highlands of Spain, much of the action was imaginatively photographed by French cameramen Claude Renoir, who is credited, along with Portalupi, with second unit photography.

### Shamroy's Credo

"It is the cinematographer's responsibility to evaluate and translate to the screen the concepts of a screen story as visualized by the producer, the director and the cast," Shamroy emphasized in summing up the photography of *Cleopatra*. "When people go to a theatre to see a picture, they are virtually seeing the story unfold on the screen through the eyes of the one who photographed it."

Shamroy's eyes are those of a true, dedicated artist. Intimates are impressed with his knowledge of painting and of the old masters and their works. This knowledge is reflected in all his photography; one invariably sees in his camera work scenes that are pictorially compelling. "Painting with light" aptly describes his technique of employing light tinted by gelatin filters to illuminate interiors. "When photographing a motion picture in color," he says, "it is important to give scenes a change of pace visually by means of the lighting, otherwise the picture may become monotonous despite a good story and capable acting."

Shamroy feels there is a growing tendency for Hollywood film makers to get away from the essentially visual aspects of motion pictures and that stilted, overly-dialogued pictures are resulting. In his opinion strong pictorial impact is vital to a motion picture, especially to a big production such as *Cleopatra* that requires imposing dramatic backgrounds against which to play the action.

Shamroy believes that writer-director Joseph Mankiewicz did a monumental job on Cleopatra, considering that the production was launched with only a skeleton script as a guide. "It requires many talents working in closest harmony to make a successful motion picture," he declared, and added that "A 'happy marriage' must prevail in the thinking and concepts of both the director and the cinematographer. This, I believe, is visually evident in *Cleopatra*." ■

## BIRTH OF AN ELEPHANT

Continued from Page 406

during the last three months when Packy was expected to arrive at any time. The others were Dr. Matthew Mayberry (a veterinarian), Morgan Berry (Belle's owner at the time), and a writer-photographer from Life magazine.

The reasons for the others being there were more apparent than Snethen's. He has been head of the TV Film Department for KOIN-TV, in Portland,

since 1957. Before that he worked for three years primarily as a film cutter at KOIN-TV.

Snethen's first film production experience did not come until 1958, when he teamed up with another cameraman to film two documentaries for the state of Oregon. Later, he organized Bob Snethen Films, concentrating on bidding for governmental documentaries.

However, it was his KOfN-TV employment that eventually led Snethen to the zoo. Upon occasions, Portland City Zoo Director Jack Marks used to show on television many of the films which he had made of various animals in the zoo. When Morgan Berry told Marks of his wish to have a film made of Belle's pregnancy, and possibly the birth of her calf, be recommended Bob Snether to produce it.

Snethen did all of the filming himself, using a 16mm Bolex Reflex camera hand-held. The rest of his cinematographic tools consisted of 25mm f/1.4 and 10mm f/1.9 lenses, an ample supply of Ektachrome ER film, Type 7258, and several portable lights.

Approximately 900 feet of color film was exposed during the period of Belle's gestation. It was one of Snethen's jobs to film the animal's behavior during the time of pregnancy. He recorded such things as the conducting of blood, temperature and electro-cardiograph tests, and later he intercut footage to show the test readings.

Special characteristics adopted by the elepbant during her pregoancy were other important developments in the documentary film. For example, Belle was a "rocker." Snethen recalled that "Belle used to stand in one spot for hours at a time rocking to and fro."

Using a hand-held camera, Snethen was ahle to follow any unexpected movements of Belle. His 10mm lens

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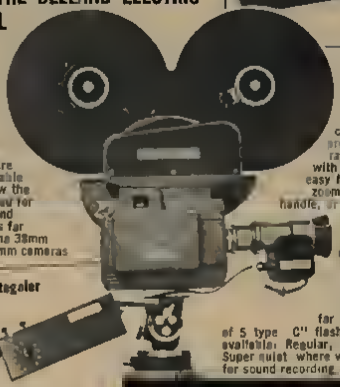

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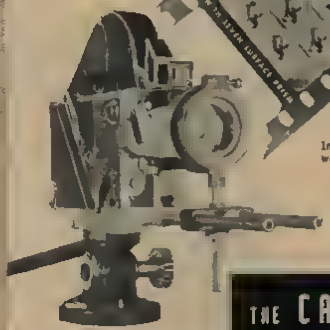

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allowed him to work in close and still get the animal fully in the picture.

Elephants are basically nocturnal animals, he points out. "They do not like light When we tried to use lights rigged up on the camera, Belle would turn away," he recalled.

"Furthermore, while her barn was nicely lighted for elephants, it was inadequate for good photography. We first tried to set up a few flood lights in the barn, but Belle would chew the wire and shock herself.

"During the last three-month period, lighting became an even greater problem Pregnant elephants are very sensitive. There are several known cases of new mother elephants having destroyed their young almost immediately after they were born.

"We did not want to do anything abnormal to upset or disturb Belle. We strived to have everything seem as routine as possible for her," Snethen explained.

During the final waiting period, Snethen decided to substitute several photoflood lamps for the ordinary light bulbs in the ceiling of the barn, where it was planned for the birth to take place.

During the pre-birth period, Snethen did his outdoor photography with Ektachrome Commercial film Having a daylight speed rating of ASA 16, it proved to be more than adequate for normal filming conditions

All of the indoor photography was done with Eastman Ektachrome ER film. When used with the photoflood lamps it has an ASA rating of 125 This film was primarily chosen because it gave Snethen his best chance to accurately capture a color picture of the actual birth under the extraordinary bad lighting conditions that prevailed

All available literature on elephant pregnancies indicated the period of gestation ranged from 18 to 21 months It seems that elephants, unlike most animals, do not reproduce within a definite time period "Thus, with the time of the expected birth so unpredictable, it was necessary to increase our vigilance to insure that the climactic event for which we had planned and labored so long would not be missed," Snethen said.

As Belle's blessed event approached its final stages, she was isolated in a special barn prepared for the occasion Snethen carefully surveyed the new quarters so that when the moment of birth came, he could point his camera

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lens between the protective bars and record the event unhampered,

When the first sign of the birth occurred, Belle was obviously in pain. The elephant moved into a small room in the barn, and now was half submerged in shadows

"We thought that the actual birth would be a slow procedure However, suddenly it just happened The f/1.4 lens was set wide open All there was really time to do was point the camera through a dirty, double glass window that provided the only view into the dingy concrete room.

"It was 5:30 A.M and none of the artificial lights were on. The whole thing was over in 30 seconds. We had time to expose 17 feet of film under available light before baby Packy arrived and Belle pushed him into a dark corner," Snethen recalled.

Packy weighed 225 pounds at birth Snethen has exposed some 300 additional feet of film on the lusty youngster since then He has captured the "firsts" in the newborn elephant's life, including rare shots that reveal the tender, post-natal relationship which Belle maintained with her calf.

In the interim, owner Morgan Berry sold Belle and Packy to the Portland Zoo. He turned rights to the film over to Snethen. who now has completed a rough cut of the rare and valuable motion picture record However, while he has not yet sold it, he considers the film to be the most valuable property in his library.

"After all," Snethen says, "who else can claim to be an expert at photographing the birth of an elephant and have the film to prove it?" •

## SCENE ANALYZER AND TIMER

TIMING NEGATIVES—This is an important step in all motion picture film laboratories, and its purpose is to determine the correct printing exposure for each scene. Photo above shows modern timing set-up at Movielab, Inc., New York, which utilizes closed circuit television for viewing the negative image In this operation, a Hazeltine analyzer is used. The negative image is converted to positive electronically on its way to the monitor screen Sitting before it, the timer technician makes delicate adjustments of balance and density The detailed information is carefully noted on a timing card which in turn is transferred to an electronically programmed perforated tape Tape accompanies the negative at all times and whenever a print is to be made, the tape is threaded in a "reader" which is part of the printer and controls the printer light volume for the entire pass, thus insuring correctly timed printing exposures

## "THE DEFENDERS"

Continued from Page 401

of two-shots and camera moves are made The tight, chin-to-forehead close-ups (called "Brodkins" by the crew due to producer Herbert Brodkin's preference for them) are generally shot with a three-inch lens, but where a camera move is involved a 32mm lens may be necessary. These require flawless lighting and focus; and to an even greater extent where a considerable movement of subject and/or camera are required and exacting follow-focus is called for

Said Mike Rayhack, "We often work with the camera far closer than Mitchell anticipates. The Double X negative we use enables stopping down and consequently 'the Brodkins' have necessitated recalibration on a lot of our lenses We're having new cams made to enable the viewfinder to allow for them Most of the cameras supplied to us by CECO are extremely quiet, and aren't picked up by the mike even within one foot. Also, a padded matte box and cushioned lens shade cut down any noise that might reach the mike"

In photographing large sets, such as the traditional courtroom, two cameras are used, one taking an 18mm wide angle view, the other, with a standard or three-inch lens centered on a particular intermediate shot of two or more characters. Here the use of more than one camera saves considerable time. In other instances, such as a scene of attorney Lawrence Preston examining a witness, multiple camera treatment not only saves time but makes possible overlapping of dialogue as for example, when camera A photographs a two-shot of Preston and his witness while camera B makes a closeup of either Preston or his witness, or possibly one and then the other In editing, the scene can cut from two-shot to closeup with the same character speaking continuously, since both shots are taken at the same time and are in sync with the same sound track.

In practice the use of two cameras creates additional lighting problems and virtually doubles Moe Hartzband's work Crew on the second camera, when used, consists of assistant Hank Muller and operator Sid Zucker.

The task of editing is facilitated by the great variety of angles and setups produced. The director of each seg-

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ment works with editorial supervisor Sid Katz and his assistants to produce a rough cut of the entire hour-long program within eight days after filming is completed. The rough cut is viewed for approval by the producer, creator Rose, network representatives, etc., and dubbing of effects and music follows. Music for the first two seasons was supplied from a library composed for the show at its outset by Frank Lewin, but beginning with the third season, which went into production in April, an original score has been written for each program.

A composite print is made in from four to five weeks after filming is completed. By that time the crew at Filmways has several more programs wrapped up and Katz has since rough-cut some of them. Editing takes longer than filming and consequently there is generally a backlog of about three shows every half season which have been filmed but not yet edited

*The Defenders*' editing style of predominantly straight cuts and a minimum of optical means that almost the entire finished print will be made from original negative. The lack of additional generations between camera and projector means very high picture quality on the screen. The finished program almost always contains a majority of closeups and this makes for characters who speak their lines close to life-size on the average-size television screen. The story is given impact and plausibility in this manner, and the generally fluid handling of camera, story elements and transitions tend to make the program a motion picture in motion picture terms, rather than a photographed stage play.

Almost every episode includes one or more sequences filmed on exterior location. Hartzband uses a Mitchell BNC for all sound takes, and prefers an Arriflex 35 for silent work; lighting equipment consists of Sun Guns, Colortrans and reflectors. "In location shooting," he says, "we have the advantage of a feeling of reality, a feeling of fresh air. We have the advantage of space and there is a saving of money since it would cost too much to build sets capable of giving these same feelings to a production shot indoors. But the drawbacks include heat, cold, and constantly changing light due to clouds and time of day. We have to race against the light as night comes and we don't have all the facilities of the studio at our disposal."

According to camera operator Rayhack, both indoors and out Hartzband and his crew have need for a lighter, more portable and flexible camera "We do the best we can with the BNC. On stage it is always mounted on a crab dolly or a sputnik; on location, a dolly, a carriage or a wheelchair have been used to give mobility to the Arriflex. We use the Arri whenever possible, but without a blimp it's too noisy for sound takes and with a blimp it becomes too cumbersome, canceling its advantages We don't really have the time to experiment to find the ideal setup."

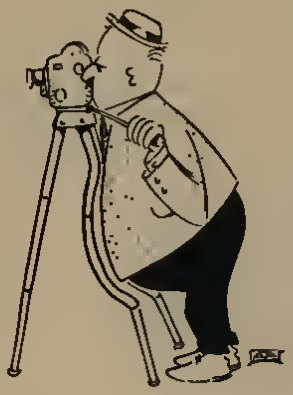
The fact that *The Defenders* is produced entirely in New York, as opposed to certain series and feature films whose producers do only location work in the city and then return to Hollywood for interiors and editing, leaves Hartzband with certain advantages and disadvantages. "We do not have enough studio space in New York," he points out, "which is why at times our stage may sound more like a carpenter's workshop than a film studio. We never stop tearing down sets and building others. We need the room. We do have an enormous amount of talent to draw from There is the legitimate stage to supply actors, and the statement that Hollywood is far more advanced than New York in terms of technical personnel is becoming continually less valid. Our company includes some of the finest dramatic people and most highly skilled technicians I've ever met in this business."

It is a credit to Morris Hartzband that under the limitations of time in which he and his crew must work, they have been able to turn out such consistently high quality photography. On the set there is an unmistakable atmosphere of close friendship among all members of the company, for which E. G. Marshall says Hartzband is largely responsible. "Moe is the guiding spirit here. He makes production more than a routine, and cares very much about everyone's part. He shoots for each actor on a personal basis. Many cameramen I've worked with just come in on time, light each scene and shoot it. Moe does a lot more than that."

The merits of *The Defenders* are evidenced by so many awards that it took two weeks to compile a fairly comprehensive list. With over forty awards to its credit, the series has been cited collectively and on the basis of individual programs, individual performances and in categories of best direction, editing and screenwriting by the Academy of Television Arts and Sciences, and was voted "best photographed T-V show" by the Screen Directors' Guild.

*The Defenders* was nominated for nine Emmy awards this year; won five One episode, *The Heathen* directed by Stuart Rosenberg, was entered in this year's Cannes Film Festival.

"We try for speed, but with quality," said Hartzband. It is evident that quality is what they get. ■



Der Film Kritik Germany

## "DAVID AND LISA"

Continued from Page 405

When Frank Perry and Paul Heller (the producers of *David And Lisa*) first approached me about the photography, they were most concerned about the limited funds available for the production.

The film was done entirely with a minimum but full union crew. Perry and Heller felt that we should shoot the picture in essentially master scenes —really sequences—avoiding closeups and staying back with the camera, letting the plot unfold and develop with the hope that the story would carry itself. I felt that this would be a mistake; that we needed closeups because the story is really in the faces of the children—David, Lisa and the other youngsters in the school and also the analysts who worked with them.

And so, when we actually got into

production, we did use master shots, but found that it did not take much longer for additional coverage, particularly closeups. Once we photographed a master sequence, the closeups became much simpler to do. Every sequence was shot first as a master, some of them running three to four minutes, and a few as long as five and six minutes. We made one take, two good takes at most on each set up. If there was an error, we'd print it and cover for it with closeups.

The night scenes were what we call "kidnap" shots. When Lisa runs away from the school, she heads for the train station. We used only the available light for shooting here, plus fast film stock and a very wide lens opening. For fill, we had one battery-powered light, which failed us at the crucial moment. We arrived at the station, ready to shoot, about three minutes before the train was to pull in. No arrangements had been made with the railroad. We just "kidnaped" the shot, then moved on.

When Lisa wanders through the streets downtown, and goes up to a newspaper stand, we again used available light plus one battery-powered light. An interesting side light on shooting this "kidnap" sequence was that we attracted a crowd of onlookers, once we came out of the station wagon where we had a hidden camera. When we moved to the newsstand where we had to have a little more intimacy with the camera, people started to gather around. We had an ingenious grip with us who immediately sensed the difficulty and decided on his own to do something about it. He set up a tripod across the street from where we were shooting, threw a black cloth over his head and pretended to be taking pictures. He succeeded in diverting much of the crowd; then two of our crew staged a fight to attract more of the people who had gathered around to watch us shoot. This maneuver worked beautifully. It even fooled the cops who sped to the scene in a patrol wagon and threatened to arrest our grip and two other crew members.

We shot a total of twelve hours of film for the picture which was eventually cut down to 94 minutes screen time. The first rough cut ran about 120 minutes. Thirty minutes of the footage was also eliminated to keep the main theme clear.

### Plus X Film Used

Nearly all of the interiors were shot with Eastman Plus X. The dawn sequence outside the Museum—the final sequence in the picture—was shot on Eastman Double X as were the interiors of the Museum. Plus X is a very fine grain, beautifully smooth quality film, which we were able to use at the school where the rooms were relatively small and the shots tight. However, in the Museum, we had to light the entire entrance, quite a large area. Here we used Eastman Double X, a very fast film which doesn't require much light in comparison to Plus X. I would have liked to use Plus X, even around the Museum, but this wasn't possible because of budget.

We did all sync sound recording as we shot. Unfortunately, we had some problems in the original sound. A number of sequences had bad background noise. We believed we would be able to eliminate it later by dubbing. However, this did not work out well, the result sounding too mechanical; so the original sound was used despite the technical imperfection.

The sequence at the Museum was not photographed "day-for-night" for the simple reason that I don't think this method is effective. There is another element involved, too. When you shoot this way, particularly in a city location, it is almost mandatory to put some reference light in the scene such as a window with a light behind it somewhere in the background. Had we

Continued on Page 430

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*What may be a source of developing new talent for motion pictures and telefilms was revealed last month when it was disclosed that Neal Black of University of California at Los Angeles (UCLA) announced plans to make a feature of his Samuel Goldwyn Writing Awards prize winning script entirely with fellow cinema students and using college equipment. Another unusual feature is that, should the film get theatrical release, all participants would be paid guild and union scales for their work.*

*Black, who won second prize in this year's Goldwyn competition with "Running Wild," which he is using for his master's degree, plans to start filming in mid-August on an extremely low budget which takes into consideration only such essentials as rawstock, props, transportation, etc., with virtually all shooting outdoors.*

*All departments of UCLA's motion picture division will cooperate—sound, editing, camera and the like—under the over all supervision of Dr. George Savage, professor of theatre arts. Black, who earned his way through college by working in various jobs in the film industry, will produce and direct, in addition to writing the script. Incidentally, he turned down an offer for the script from a telefilm anthology series production.*

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## ELECTRONIC DIMMER

Continued from Page 411

be operated efficiently as far away as 500 feet.

Two types of remote controls are available. Individual remote units (B, Fig. 1) are half the size of a cigarette package and weigh but a few ounces. A 3-pound module unit shown at F in Fig. 2 and designated RCD 1-6 handles up to six dimmers in any combination of capacities. Six receptacles are provided in the back panel of this unit (Fig. 3) for plugging in the lightweight wire which is run to each dimmer. With either the individual controls or the six unit module, dimmers can be pre-limited or operated through their full range. Dimmers can be "released" from their remotes through the use of a switch (A, Fig. 1) on the dimmer control panel. Because of the method of control and type of circuitry employed, the remotes operate dimmers with no loss of light output. Each dimmer control is marked in graduated increments from 0 thru 10 for reference, and the RCD 1-6 has erasable panels (D and E, Fig. 2) for identifying light positions.

Another element of the system that should prove of great value in any multiple light set up is the RMD 1-6 Mastering Unit (C, Fig. 2). With this unit, each dimmer can be pre-set for the maximum illumination level desired for the light balance ratio required by the director or photographer, and through use of this single control the level of all lights can be reduced, in direct proportion to the settings of the individual dimmers for each light. The relative setting of each dimmer is not changed, and light level can be returned to full pre-set volume at any time.

When the Master Unit is being used, the remote dimming controls are not employed, as the purpose of the RMD 1-6 is to afford control of the overall light level of a set in direct proportion to the pre-set levels of individual dimmer controls. This can be of considerable value for applications such as fade-outs and fade-ins in TV and motion picture photography, and for dimming lights between takes without disturbing lighting ratios.

All remote and mastering units control ColorDyne dimmers of any capacity, in any combination, etc., and are connected through plug-in receptacles on the back panel. (See Fig. 3.) Six lights can be controlled from one position, either for individual intensity, or as a group with the Mastering Unit, and additional lights can be controlled merely by adding other RCD or RMD control units.

The ColorDyne system, result of advanced electrical and electronic engineering, has been made possible through recent advances in solid-state technology. Tiny transistors and other modern solid-state devices are heralding the disappearance of bulky, heat-producing wire-wound "power reducers," and will do much to eliminate the clutter of cables that have been characteristic of artificially illuminated sets. These tiny devices put a new degree of control in the hands of the director of photography. ■

## Filters Aid Location Photography

LOYAL GRIGGS ASC noted cinematographer, is shown with two of a series of custom made graduated filters for filming "The Greatest Story Ever Told."

SPECIAL GRADUATED filters, designed to meet unusual weather conditions encountered on three locations, were used on cameras filming the George Stevens production of *The Greatest Story Ever Told.*

The exceptionally large filters used in many scenes of the story of Christ were provided by Herron Optical Company, Los Angeles subsidiary of Bausch & Lomb Incorporated, Rochester, N. Y. The filters were designed to specifications supplied by Loyal Griggs, ASC, Academy Award-winning cinematographer now photographing the Stevens picture.

Griggs, who won the Academy Oscar for photographic work on *Shane*, a previous prize-winning Stevens production, explained that the filters helped resolve problems which arose during the filming in varied and often severe elements at Glen Canyon, Utah; Pyramid Lake, Nevada, and Moab, Utah, as well as at the studio in Culver City, California.

"The graduated filters have been used in virtually every sequence of the picture," said the veteran cinematographer. "Usually we have utilized them in combination with a Polaroid screen for 'hot' sky and 'hot' foreground. Even for individual costumes that were too 'hot' the filters were inserted, on their sides, in front of the lens.

"We also have used them extensively to make correction for color. And the filters are especially helpful for shooting 'night' scenes in daylight.

"In group closeups, filters have been used to 'hold down' the sky. We have utilized them in various combinations of 'hot' light, sand and sky.

"The filters do not in any way hinder movement of the cameras. You can pan and tilt—in fact, you can do anything with them that could be done without their use."

## BEHIND THE CAMERAS

Continued from Page 384

FRED KOENEKAMP, "The Lieutenant"*.

PHILIP LATHROP, ASC, "Twilight of Honor" (P'Vision) with Richard Chamberlain and Nick Adams. Boris Segal, director.

WILLIAM DANIELS, ASC, "The Prize" (Roxbury Prod., P'Vision & Metrocolor) with Paul Newman and Edw. G. Robinson. Mark Robson, director.

JOSE AGUAYO, "Gunfighters at Casa Grande" (Gregor Prod., shooting in Spain) with Alex Nicol and Jorge Mistral. Ray Rowland, director.

HARKNESS SMITH, ASC, "Dr. Kildare"*.

EMMETT BERGHOLZ, "Combat"*.

RAY FLIN, "The Tales of Jaimie McPheeters"*.

DICK KLINE, "Mr. Novak"*.

**PARAMOUNT STUDIOS**

MILTON KRASNER, ASC, "Love with the Proper Stranger" (Pakula Mulligan Prod.; shooting in N.Y.) with Natalie Wood and Steve McQueen. Robert Mulligan, director.

Continued on Page 430

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**Continued on Next Page**

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# Classified Ads

Continued from Preceding Page

## SERVICES AVAILABLE

FILM assignments, 16mm, Detroit area, scenic, stock shots Editing and titling HOWARD TRIEST, 10400 Saratoga, Oak Park 37, Mich LI 2-7574

BRAZILIAN English speaking production unit available for assignments in Brazil, Uruguay, etc. 11 years' experience, color B&W. HELICONFILM, Ave Ipiranga 1246, Sao Paulo.

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# BEHIND THE CAMERAS

Continued from Page 425

### PARAMOUNT STUDIOS

WALLACE KELLEY, ASC, "Who's Minding the Store?" (York Jerry Lewis Prod.; T'color) with Jerry Lewis and Jill St. John. Frank Tashlin, director.

GEOFFREY UNSWORTH, "Becket" (Hal Wallis Prod; P'Vision & Eastman color; shooting in London) with Richard Burton and Peter O'Toole. Peter Glenville, director.

ELLSWORTH FREDERICKS, ASC, "Seven Days in May" (Seven Arts-Frankenheimer-Joel Prod.) with Burt Lancaster and Kirk Douglas. John Frankenheimer, director.

JOE MACDONALD, ASC, "The Carpetbaggers" with George Peppard and Alan Ladd Edw Dymtryck, director

LESTER SHORR, ASC, "Invitation to a Hanging" (A C. Lyles Prod., T'color) with Dale Robertson and William Bendix. William Claxton, director.

### PATHE STUDIOS, N.Y.

J. BURGI CONTNER, ASC, "The Nurses"*.

### PRODUCTION CENTER, N Y.

ARTHUR ORNITZ, "Act 1" (Dore Schary Prod., Warner Bros.) with George Hamilton and Jason Robards, Jr Dore Schary, director

GEORGE STOETZEL, ASC, "The Patty Duke Show"*.

### REPUBLIC STUDIOS

GEORGE DISKANT, ASC, CHARLES BURKE, ASC, "Burke's Law"*.

WILFRID CLINE, ASC, "The Robert Taylor Show"*.

FRANK PHILLIPS, ASC, "Gunsmoke"*.

### TWENTIETH CENTURY - FOX

DANIEL FAPP, ASC, "Move Over, Darling" (C'Scope & Color) with Doris Day and James Garner. Michael Gordon, director.

LUCIEN BALLARD, ASC, "Take Her, She's Mine" (C'Scope-DeLuxe color) with James Stewart and Sandra Dee. Henry Koster, producer-director

WILKIE COOPER, "The Winston Affair" (Talbot-Pennebaker Prod; C'Scope, shooting in England) with Doris Day and James Garner. Michael Gordon, director

JAMES VAN TREES, ASC, "The Phil Silvers Show"*.

### UNIVERSAL CITY

WILLIAM MARGULIES, ASC, "Alfred Hitchcock Presents"*

ARTHUR INGETSON, "The Chalk Garden" (Ross Hunter-Quota Rentals Ltd. Prod; T'color, shooting in England) with Deborah Kerr and Hayley Mills. Ronald Neame, director.

JOSEPH LA SHELLE, ASC, "Wild and Wonderful" with Tony Curtis and Christine Kaufman Michael Anderson, director.

ELLIS THACKERY, ASC, "Wagon Train"*,

NICK MUSURACA, ASC, "Jack Benoy Show"*

CLIFFORD STINE, ASC, "King of the Mountain" (Eastman color) with Marlon Brando and David Niven. Ralph Levy, director.

BENJAMIN KLINE, ASC, "Challenge Golf"*.

JOHN RUSSELL, ASC, "The Virginian"*.

LIONEL LINDON, ASC, WALTER STRENGE, ASC, "Arrest and Trial"*

JOHN WARREN, ASC, "Channing"*.

### WALT DISNEY

EDWARD COLMAN, ASC, "Mary Poppins" (T'Color with Julie Andrew and Dick Van Dyke. Robert Stevenson, director.

WILLIAM SNYDER, ASC, "A Tiger Walks" (T'color) with Brian Keith and Vera Miles. Norman Tokar, director

### WARNER BROS.

CHARLES LAWTON, ASC, "Youngblood Hawke" with James Franciscus and Suzanne Pleshette. Delmer Daves, producer-director

ERNEST LASZLO, ASC, "Four for Texas" (Technicolor) with Frank Sinatra and Dean Martin Robert Aldrich, producer director.

BURT GLENNON, "77 Sunset Strip"*

# "DAVID AND LISA"

Continued from Page 427

elected to shoot our night scenes "day-for-night," we would undoubtedly have been compelled to place lights in windows of a number of the buildings in the location area for the same reason. So I don't think we would have saved any money shooting this way. Even more important is the fact that close-ups shot "day-for-night" are rarely flattering—and there were a number of them required in the closing sequences of *David And Lisa*. ■

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